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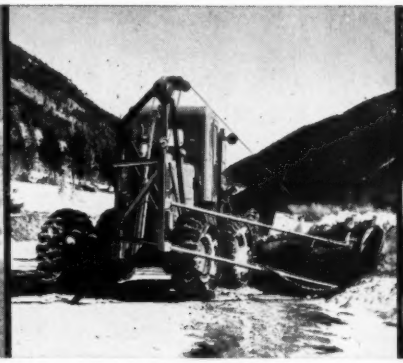

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CONTENTS

6 WHAT OTHER PEOPLE SAY • *Jonathan Daniels*

8 WATER, FORESTS AND PEOPLE

10 FORESTER'S NOTEBOOK • *Kenneth B. Pomeroy*

11 EDITORIAL — The State Forester

12 READING ABOUT RESOURCES • *Monroe Bush*

13 WASHINGTON LOOKOUT • *Albert G. Hall*

15 EDITORIAL — Greeley Also Came East

16 GREELEY WENT WEST • *Stewart Holbrook*

24 OREGON VIEWS KLAMATH SITUATION • *Bill Jenkins, Robert W. Sawyer*

27 RESOURCES FOR THE FUTURE

28 THE WHITE HOUSE TREES • *Virginia Burgess Warren*

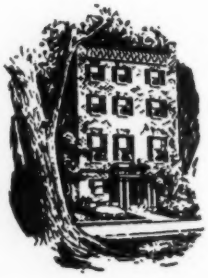
30 TIME BOMB IN THE HIGH SIERRAS • *Alvin Klotz*

32 ASSOCIATIONS • *Jesse Stuart*

34 TEENAGERS MANAGE A FOREST • *Joseph W. Wiley*

36 25 MILLION MORE PEOPLE—NO MORE LAND • *Samuel T. Dana*

77 WHAT'S NEWS ACROSS THE NATION • *James B. Craig*



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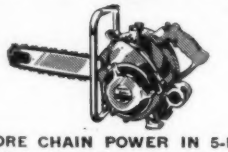

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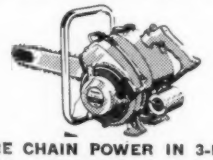

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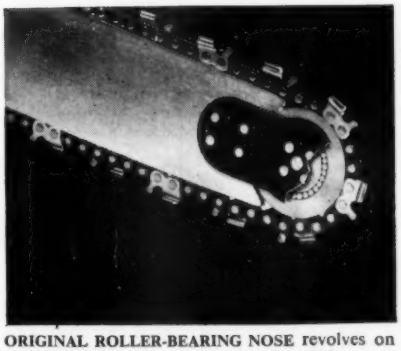

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Forest Forum

"Our Social Responsibilities"

EDITOR:

I should like to comment on the good article by Dr. Walter P. Cottam in AMERICAN FORESTS for January. His title is "Our Social Responsibilities." I would like to have my comments under the same good title.

In this present article Dr. Cottam also brings out some pertinent facts about how we are using our lands. Note, for example, how small a percentage of livestock is grazed on our forests. Dr. Cottam then points out the overgrazing taking place on our national parks and monuments. I am sure ecologists will agree when he points out the factors, due to grazing, that prevent the reproduction of the saguaro cactus in the Saguaro National Monument in Arizona.

I would like to carry this subject, social responsibility, further. I have visited our national forests and found overgrazing prevalent, including many wild and wilderness portions. On some of our wildlife refuges overgrazing has gone to the point where we have lost one and two inches of topsoil, and many of our plant species. Some Indian reservations have been so greatly overgrazed that a jackrabbit has to carry a lunch to go across, as the old saying goes. At least that was the condition I found a few years ago, and the same holds true of many private lands. Some years ago Aldo Leopold wrote "Cheat Takes Over." And it is not only overgrazing by livestock. Game ranges too are overstocked.

We have been so immersed in the national scramble for quantity production that we have gone a long way toward devastating our country. In all our history we have had no such wasteful use of materials. Yet there are those who urge that we produce more and more and more, regardless of what we do to our living environment.

Shall we go blindly ahead, and burn the proverbial furniture to keep the fire going as long as the furniture lasts? Is it not time we take time out to look at ourselves, and our social responsibility? Is it enough that we somehow keep alive? I realize that many are content with amassing material wealth. But something more is needed for happiness.

Our society is not static. More and more people, all over the world, are becoming sensitive to natural beauty, to the living environment of wild country. Our ideals are changing, for the better. This is apparent in what is being written for earnest people, in books and magazines. They are all striving for a better way of life.

In view of all this, should we not always be ready to examine again our social structure and behave accordingly?

Dr. Cottam is disappointed by the fact that in the Wilderness Bill such nonconforming uses as grazing, airplane use and motorboats are temporarily permitted. I have not been in close touch with the details, but I do know that any changes in the bill to permit such uses have been made by the sponsors to meet the vociferous objections that have been made.

Let me give an example. I have been working with the forest rangers and out on the forest ranges and have come across many of the difficulties. Last summer I was out on a forest with some Forest Service personnel looking over some land abused by sheep herds for many years. It was obvious to all of us that this area was devastated. There was no grass any more, and the soil was going.

Around the campfire that night one of the men said: "We have created our own problems." And it was the consensus that the sheep must go. But how? The rangers were conscious of the livelihood of the owners, and desired to be reasonable, with them. But they knew the sheep must go, and before much more time went by.

As I see it, this is the same reasoning that has permitted the changes in the wilderness bill that allows nonconforming uses temporarily. Any social change cannot be accomplished by military methods, as we are slowly learning. It seems to me that the sponsors of the Wilderness Bill have been extremely cooperative with all concerned, in order to be fair, and at the same time get enacted a piece of legislation that is wanted all over this continent.

We need desperately to define what we mean by multiple use. Does it mean that we must have every available acre subjected to every bit of use we can think of? Now that we have become numerous, with worthy human aspirations, in order to have the democracy we talk so much about, should we not inject into the definition of multiple use the concept of zoning?

We know that on the same range in many places there is not room for both livestock and wildlife. We must make a choice. That is not "multiple use" in the vocabulary of some.

In the same way, if we subject all of our public land to the same kind of treatment for crop production, we will eliminate the opportunity for all those people who are sensitive to all the attributes of a wilderness experience, not only the thousands of today, but those of the future who will be sensitive to esthetics, probably more so than today.

A wilderness area, in the concept of the people developed through the years, can furnish that esthetic enjoyment that is so important to any culture. In a recent talk, a speaker referred to us Americans as "philosophical illiterates." What better place than the solitude and serenity of wilderness to help us become real thinkers? Wilderness can support wildlife, which must be eliminated in a great many other places, and just as important, for the true sportsman to enjoy hunting and fishing in the very highest form. And others who want to observe wildlife, can there find it living as Nature has developed it. The wilderness is an ideal place to study ecology, a subject that is having the attention today that is long overdue. And such areas are important for conservation of the water supply.

There is then, a whole list of worthwhile things that a wilderness can supply. Shall we not then modify the careless way we have used the term "multiple use" for years, to include the concept of diversity that is so compatible with democracy; to allocate to certain sections the group of uses that are suitable for each one? Let us avoid the deadly lowering of our life to an average, to the conformity so common in the dictator countries.

Our experience has shown that without the help of civilians the government bureaus would be helpless in the face of crises that confront them periodically. This legislation would certainly help the administrators, as well as the people of our country who want the wilderness values.

These are my thoughts on "Our Social Responsibilities" as I look at our civilization as a whole.

Olaus J. Murie
Director
The Wilderness Society
Moose, Wyoming

EDITOR:

. . . I now feel compelled to make rebuttal to Dr. Cottam's article in the January AMERICAN FORESTS. ("OUR SOCIAL RESPONSIBILITIES" by Dr. Walter P. Cottam) I cannot count Dr. Cottam among my personal friendships, but was benefited by some brief associations while serving as Assistant State Forester in Utah. Knowing of the integrity and professional capability of Dr. Cottam and having some knowledge of the areas to which he specifically referred in his article, I feel somewhat qualified to air my views.

My first serious difference to Dr. Cottam's position is that he stated merely the physical side of the triangle that composes resource use and allocation. What of the economic and institutional factors that must surely be administratively considered in intelligent resource allocation? A complete analysis cannot be undertaken herein, but may I point out that these factors must be included in a rational consideration of the

proposal. A personal observation is that most of the emphatic proponents of the wilderness idea and especially the proposed wilderness bill are emotionally mesmerized with only physical factors. This in itself cannot be condemned, but when such individuals become collective powers great enough to sway public opinion, public policy and even legislation, the shortcomings must be exposed and their position challenged.

My second objection concerns the specific examples referred to by Dr. Cottam. In every case he points to areas of public land that have been declared by law to be publically used for one, and only one resource benefit. This resource allocation is for recreation—the aesthetic—a non-market value, difficult to substantiate, difficult to challenge. He makes a *major* point of the *minor* exceptions to this resource allocation which has created the national park system. There is ample public record of the National Park Service administrative efforts to dissolve the exceptions which stand as irritating sores contrary to well-defined policy, regulation and law. These examples cannot be rationally accepted as indicating a need for a "wilderness law."

In no case does Dr. Cottam refer to the larger problem; that of wilderness areas within our national forests. Certainly the resource allocation of public land in excess of 187 million acres deserves considered attention and because it is public land, its administration is of concern to every citizen moved to be of interest. This is where the larger problem lies, not so much by size alone, but because the resource has already been allocated by law in the case of national parks and monuments and there is no public law or regulation designating resource use or allocation for the remainder of our public lands. In this case, primary concern involves national forest lands it seems to me. . . .

I am not about to publically expose my personal views (except by inference) concerning this issue. I like the wilderness idea; I enjoy the wild lands; I believe in some degree of preservation. My purpose herewith is to expose the fallacy of considering the issue for the physical viewpoint only, and becoming emotionally swayed by the disappearance of a number of botanical features in a number of specific instances. Let us be fully aware of the economic factors which form the very root of our democratic standard of living. Let us not bury the institutional considerations which must be analyzed. Students of administration continually plead for freedom of policy makers with limited checks and counter-balances. . . .

Surely, this is a "social responsibility" as Dr. Cottam started to point out, but has he not neglected the "social" factors and become mesmerized by his own competence and knowledge of the "physical" considerations? We are in agreement that the core of the dissension is not a basic difference in wilderness philosophy, but merely opposing ideas of achieving the same objectives. Examine completely then, *all* of "our social responsibilities."

. . . May my plea be that our builders of public law carefully consider *any* and *all* legislation dealing with resource allocation, casting aside emotional arguments and making certain that natural resource use be built on the triumvirate of factors: physical, economic, and institutional.

Martin Craine
Extension Forester
416 Ash Avenue,
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Economic Importance of the Pulp and Paper Industry in the South

By JONATHAN DANIELS
Raleigh News & Observer

IT is good to be in Atlanta. Every Southerner comes to Atlanta in his best clothes and with his highest hopes like a colored man coming to the county seat on Saturday night. Some years ago when I was working on a book about the South, after I had visited it, I called Atlanta "Overseers' Capital." It was, I said then, "capital of the South where the overseers of the absentees meet to administer it." Perhaps that may be dismissed as impertinent history now. Some landmarks have changed. Regretfully I know that Margaret Mitchell, whose observant eye marked vividly the old disregard for the little pines, is no longer here. I remember that she told me on that visit: "little people have to be tough or worms." I was not sure that I agreed with her. I am not sure now whether she was talking about some persons or the whole South. I do know—we all know—that since that time a new wind has come that has much transformed, often blessed, this region in which we meet. Also, like every other big wind it has stirred up a lot of dust.

It is good also to be with foresters and conservationists. When last year the International Paper Company asked me to look at the meaning to the South of the pulp and paper industry in the South, you showed me significant things. Indeed, the performance had almost miraculously outrun the hopes I had had twenty years before when I came up the hill from Dr. Charles Herty's little laboratory by the Savannah River "a convert, if not a minor prophet" in the doctrine that the South's best chance lay in the injunction, "Plant the pines."

They have been planted. They grow around the great smoke-plumed mills and far back behind them across the old red hills, the gullies, the broom sedge, and cut-over areas —across millions of acres of land once let go for taxes. Such areas, when I was here twenty years ago, were lands in which hope of the earth seemed exhausted—and the hope of men beside them seemed exhausted, too. The glorious change is the reason that I like foresters. . . .

I have given my testimony as to my faith that hardly any other thing serves as the basis for Southern hope so much as the pulp and paper industry. I would be foolish, being one strong in that faith, to come down here merely to congratulate you. You do not constitute a committee to receive a medal. You are here on the serious business of the conservation of the forests. That is not merely a conservation of trees. Your business is people and their possibilities.

That involves not only site, species, forest genetics, fire-fighting, fire-education, planting and protection. To do your job you must deal with the hopes and fears, the ignorance and the enlightenment, perhaps most of all with the habits and legends of people. And it will not suffice to know that many of the old habits are bad and most of the legends are false. Folly may be the most difficult thing with which you have to deal. Certainly you know better than any other folk anywhere the tremendous job it has been to inculcate the simple and to most of us obvious moral doctrine that it is not nice to put a torch to the trees. Preaching obvious morality will not meet the specifications of the job before you. Sometimes, indeed, a lot of such preaching in the South reminds me of the creed prepared for his slaves before the Civil War by General Matt Ransom of North Carolina. As good Episcopalian he accepted his responsibility for the welfare of his colored folks, so he taught them:

"Love Jesus. Obey the master. And don't steal Mr. Ransom's corn."

You have done a good deal better than that. You have intelligently spread the doctrine of the value of the forest—of every woodland—to every person living in the South now. To me the fact that the paper industry now owns a tenth of the commercial forest land is a far less disturbing fact for the South than another apparently less evident one. That is that 75 per cent of the forest land of the South in the hands of the private owners is growing wood for the Southern economy at only one-fifth of the rate at which the paper industry has shown it can be grown. Furthermore, much land which might profitably be growing trees for their owners is producing only broom sedge. Some seems only adding silt to streams.

Even on well-managed lands much remains to be done. That is true even in such a blaze-clear business as fire-prevention. Even in that business the best fire-fighters know that they do not have to fight fire alone. It has often been merely a ravening symptom of other things: of the ancient resentment of squatters beside large land holdings, of old ideas of the free range clung stubbornly to by scrub men for scrub cattle and razorback hogs, of notions of the little-bit-too-free forest of hunters who burn trees to make a better turkey target. Most of these people are

the disreputables of Southern lag and land. But now you confront more respectable American legends of man and land held by people—who don't set fires, at least not in the woods—who often righteously regard you as dangerous trespassers upon their traditions.

We delude ourselves not only in Georgia and Mississippi but in history if we think that the trespasser has been the biggest villain in our tradition. Comic books may help stop fires, but they are read by children who are taught about Robin Hood and know that the evil was on the side of the sheriff of Nottinghamshire. Much of our poetry is on the side of the poacher. The villain in the land story has always been the big landowner, the absentee landlord, bigness itself—even the fence—and, dare I mention it in Overseers' Capital — the Carpetbagger.

Now today when the townward trek in the new urbanization of the South can be seen by the most blind and not missed by the dullest country storekeeper, we confront the most serious legend of all. It is the Jeffersonian ideal of an agrarian civilization—the vision of every man stalwart and content by his own vine and fig tree, of flourishing little towns and flowering little farms. Actually that takes us back not merely to a Jefferson but a Biblical ideal. And somehow sentimentally, defensively, politically, that ideal seems most precious at a time when it seems, late in the South, threatened with extinction.

Your forests have grown swiftest in the years since the 1950 census showed the smallest proportion of American farm population in history. That puts the two facts together though they may not be related at all. The biggest target may be the most innocent. It can adequately serve those who shoot and need an excuse for shooting. No excuse is better than an old ideal. And no one should miss the fact that an ideal may be out of date long before it dies. The vine-and-fig-tree notion had withered for most people long before they left the land. Certainly the forest industries, even in their old rough days in the forests, did not begin that movement. For most who went out of the gate and up the road toward town the trip was overdue.

A lot of sympathy has been wasted on the story of the Okies and Arkies being forced off their insecure places on the land by tractors. Most of them left with new hope and in high spirits. People forget songs about "how you gonna keep 'em down on the farm" as early as World War I. We forget that in the 30's more people were trying to make a living on less land than was under cultivation at the time of the Civil War. They wore themselves out wearing out the land. The colored folks who the time merchants miss now were leaving the rural South long before the paper mills were built or the company forests spread. We had a locally famous Negro poet in North Carolina back near the turn of the century. He lived in Durham—or Derms as the colored folks called it. He wrote a poem:

The colored folks of North Carolina
is all upset
Like hot grease poured on worms
Two carloads left Goldsboro yestiddy
And four carloads left Derms.

The sudden and disturbing realization in many small market towns in the South is that many folks are gone. Cabins and old homes, too, are rotting under the covering of creepers. Pines grow where old fields lay. Now little towns drained of their country populations are grasping for industry while missing country trade. And in them, too, missing the meaning of the tractor, the automobile, controlled crops and crop surpluses, too, better jobs in towns, the lure of far places and better chances, there is a sense that the forest which spreads back over vacated lands, perhaps emptied them, too.

Mr. Daniels presented this speech at the Southern Pulpwood Conservation Association meeting in Atlanta, Ga.

Of course, that is not true. As is well known to you and to me, very little of the land upon which our hope grows now in tended forests was formerly composed of little farms and happy plantations. Most of it was in large tracts before the possibilities in pulp and paper were discovered in the South. Much of it had been abandoned as useless.

The lands upon which some tax-gatherers, real estate men and politicians now turn their eyes was tax delinquent before it was intelligently put to work growing pines. Dr. Howard Odum, in his great work on the South in 1936, indicated that over six million acres was in such condition. The pine barrens of the past were barren indeed. Today in the whole South, your association's current study shows, only 15 per cent of the commercial forest land in the 12 Southern states were acquired from ownerships of 500 acres or less and that only 2.5 per cent was retired from cultivation.

There remains a strange sense of the growing forest as an encircling forest, of people somehow pushed out by trees, of strangers fencing off or at least taking hold of a heritage. The image grows of a happy life pushed from an old contented land that never was. Let's look back at those good old days. Just about the best picture I know was drawn by a great Georgian about Georgia. Henry W. Grady, who heralded the New South, spoke about a funeral in north Georgia which he had attended:

> This funeral was particularly sad. It was a poor "one gallus" fellow, whose breeches stuck to him under the armpits and hit him at the other end about the knee. . . . They buried him in the midst of a marble quarry; they cut through solid marble to make his grave; and yet a little tombstone they put above him was from Vermont. They buried him in the heart of a pine forest, and yet the pine coffin was imported from Cincinnati. They buried him within touch of an iron mine, and yet the nails in his coffin and the iron in the shovel that dug his grave were imported from Pittsburgh. They buried him by the side of the best sheep-grazing country on the earth, and yet the wool in the coffin bands and the coffin bands themselves were brought from the North. The South didn't furnish

(*Turn to page* 67)

PICTURESQUE Tucson, Arizona, the "sunshine city of the desert" will play host to the 83rd annual meeting of The American Forestry Association, October 27-30. This delightful city, which gracefully combines the old West and the new, was selected for the meeting because of its location in the semi-arid Southwest to help point up the theme of the meeting, "Water, Forests and People."

As the water supply is primary resource problem facing this country today, the AFA meeting will concentrate on the conservation of this vital resource. AFA members will be able to study first hand, the water problems of a particularly critical region and the effects of watershed management on the water supply.

An on-the-ground inspection of the water problems in the Santa Catalina Mountains will be the opening feature of the annual meeting. Luncheon will be served in the scenic Rose Canyon Recreational Area, and in this setting, AFA President Don P. Johnston will formally open the 83rd Annual Meeting. Here, the Honorable Donald Hummel, mayor of the city of Tucson will welcome the group, to be followed by the keynote address on "Water, Forests and People."

Another field trip planned for the meeting is a survey of the multiple use programs on the Coronado National Forest. Under the guidance of Forest Supervisor Norman Weeden, members will be able to view many examples of sound conservation programs in action. Tours of forage plant nursery, grass seed ranch, soil conservation projects, and a cattle feeding plant have been arranged.

Several panel discussions have been scheduled to augment information obtained on the field trips and to examine problems still to be resolved. "Watersheds and Their Management in Relation to Water Supply" will be the subject of the first panel, and will emphasize federal, state and citizen responsibilities. The second panel, "Water Needs in the Southwest" will concentrate on forest and water relationships, research in watershed management, recreation and wildlife, agriculture, forage, Indians, and urban and industrial requirements.

Many other interesting features are scheduled for this Tucson meeting. Members will have an opportunity to visit the Arizona Sonora Desert Museum. This "living" museum covers about 20 acres, and there may be seen animals, reptiles, birds, insects and natural growth of the desert. Also scheduled is an O'd Timers luncheon to honor early foresters, and for a really western touch there will be a supper in Old Tucson, chuck wagon style. And for the ladies, a western style show and tea is planned at the El Conquistador Hotel. Fashions will be modeled by forty lovely coeds from the University of Arizona, located in Tucson.

AFA members will find the city of Tucson a most interesting place to visit. It is one of the oldest communities in the United States, and was an important outpost of the Spanish empire before the American Revolution. Many evidences of its Spanish, Mexican and pioneer past remain, such as lovely old Spanish missions and the ruins of Fort Lowell. However, the modern Tucson is a thriving community, with expanding industry and a center of culture. And, as the Chamber of Commerce claims it is also the dude ranch capital of the world.

Another attraction of Tucson is the fact that it is only 65 miles from Mexico. As part of the annual meeting, AFA members will take a trip to the border town of Nogales, Mexico. There they will visit a historical cattle ranch in old Mexico, and be treated to a supper and fiesta—Mexican style.

With so many interesting features planned for this annual meeting, it will certainly prove a worthwhile experience for AFA members.

WATER, FORESTS & PEOPL

Herd of dairy cattle grazing on an irrigated pasture on a national forest is example of the multiple use programs in action in the semi-arid southwestern part of country

Magnificent views such as this rugged crest attract thousands of people yearly

CONSERVATION CARAVAN

All Aboard! The Conservation Caravan bound for The American Forestry Association's 83rd Annual Meeting in Tucson, Arizona will roll out of Chicago, Illinois at noon on Thursday, October 23. Traveling on the Grand Canyon Limited of the Atchison, Topeka and Santa Fe Railway Company, the AFA group will have an interesting trip through some particularly scenic parts of the United States. All members of AFA are invited to come along and enjoy the fun and a special effort is being made to recruit "Old Timers" who served in the early days of the Forest Service like President Don Johnston, who got his first Forest Service job at Tucson. The "Old Timers" will also be honored at a special convention luncheon. The highlight of the trip for members of the Caravan will be a visit to the Grand Canyon of the Colorado River. The group will spend a full day visiting this natural wonder. The Caravan will then depart for Tucson, arriving there at 2:00 P.M. on Sunday, October 26. This 1958 Conservation Caravan promises to be even more interesting than the highly successful one in 1954 to the Portland, Oregon meeting. Ever since the caravan ride to Portland, the members of that group have been requesting a similar trip.

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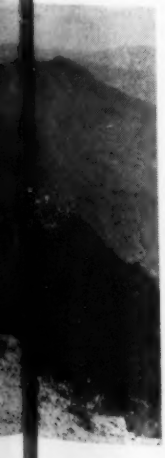
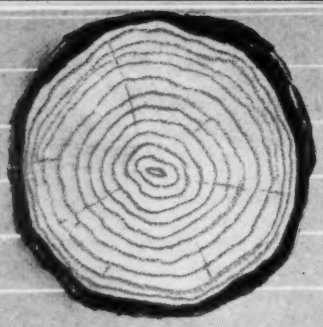


Southern edge of Superstition Wilderness Area, Tonto National Forest, in Arizona



FORESTER'S NOTEBOOK

State Foresters Call For More Action on State and Private Fronts

By KENNETH B. POMEROY

CHARGING that state and private forestry programs have not kept pace with other conservation programs, state foresters across the nation last month called for stepped-up action in this area of lagging activity. The need? Greater emphasis on cooperative federal-state fire protection, more research on control of insect and disease ravages, more marketing assistance and research for tree owners, and a direct frontal attack on the problem of "how to help more people to help themselves" in managing their woodlands effectively.

What will be required to really get down to cases in helping "farm forty" owners who control 60 percent of all commercial timber in the nation? Reply the state foresters bluntly, "A lot more help, a lot more money and a lot more research." Here's how some of the leading state foresters in the nation sum up this important proposition:

J. Whitney Floyd, President, Association of State Foresters: "The cooperative programs have not progressed at a pace comparable to the problems which we face. For example, in our Clarke-McNary, Section 2 Program of cooperative fire protection, we have never had appropriated to us the amounts authorized for this program. The original intent of the Clarke-McNary Law was that the federal government would be on a 50-50 matching basis with the states, in supporting the cooperative program for the protection of state and private forest lands. It is interesting to note that in the fiscal year 1957, state and private funds for fire protection amounted to $44,533,382, while the federal expenditure amounted to but $9,385,652. Our area and cost figures indicate that we are nowhere nearly adequately financed to do this nationwide job.

"We have just recently tackled the program of cooperative forest management and although we have had phenomenal growth in this activity during the past ten years, we have had a tremendous job before us in assisting the small forest land owners and producers in making more productive forests. I am sure I am expressing the opinion of the State Forestry Association when I say that we believe that the acreage of private forest land, which comprises roughly 75 percent of our total commercial forest land, is a job of high priority. These responsibilities can be met most effectively through a strengthened, cooperative federal, state, and private forestry program."

C. N. Nelson, North Dakota: "The Clarke-McNary planting program is being cut to a point where it could well endanger nursery production. We depend upon this source of financial assistance, and because we are in the early stage of development in North Dakota this proposed cut is of considerable concern to us. Being not only the state forester, but also president of the North Dakota School of Forestry, let me say I feel the federal government ought to support its established programs and forget Federal Aid to Education.

"Furthermore I would like to see elimination of the A-8 practice under A.C.P. It makes it necessary for us to deal with two federal bureaus instead of one (USFS), making our relationship unnecessarily complicated."

Joseph F. Kaylor, Maryland: "Although Maryland has 14 service foresters devoting full time to the problems of private woodland owners, their combined accomplishments only result in treatment of about one percent of the state's private forest land each year. This is far too little to offset the inroads of inferior species, honeysuckle infestations and other pests that limit the growth of better quality timber.

"Timber stand improvement needs to be accelerated greatly through the Cooperative Forest Management Program and the Agricultural Conservation Program. This is especially important in Maryland because we are right in the center of a high quality market."

Harrod B. Newland, Associate Director of Conservation, Kentucky: "Our forestry problems are 'people's problems' to a much greater extent than in most other states. We need to:

"1. Expand forestry education at all levels.

"2. Establish adequately financed state-wide fire protection including necessary legislation. Nearly 4 million acres have no protection and 250,000 acres are burned annually.

"3. Provide technical aid and guidance to woodland owners. Fifty full-time foresters are needed but only 13 are employed today.

"4. Expand the tree planting program. It will take 150 years at the current rate.

"5. Provide legislation and money for pest control. Remember the chestnut blight. Today Kentucky forests are threatened with oak wilt, pine beetles and tip moths.

"6. Find new and better ways to manage and utilize the forests. Research is the key to progress. Little

(*Turn to page* 71)

EDITORIAL – The State Forester

A real anchor man in state resource programs is the Director of Natural Resources or, as he is known in some cases, simply the State Forester. His is a complex job that requires the wisdom of a Solomon and the patience of a Job. He deserves all the support you can give him.

In some cases, the Director of Natural Resources, not infrequently a forester, has divisions of forestry, parks and wildlife management under his jurisdiction. Quite often, however, it is the state forester who does much of this work himself. This means he is responsible for timber management and recreational and wildlife needs on the state forests and park maintenance on the state parks. He fights fire, he buttonholes the members of his legislature to obtain needed appropriations for his worthwhile programs, he caters to the growing recreational needs of his people, he watches the wildlife programs in his areas, he sells the timber from his forests to help pay for his program, and he battles incessantly to sell leaders in his state on the importance of long-range planning.

An ample task for any man, you say? But that's not all. The Director of Natural Resources or State Forester in a state has to be a water specialist, too. Most waters are forest waters. Therefore he becomes a key man in helping provide for the present and future water needs of his state. We might get along, reluctantly, without many of the products of the forest. But water is the one thing we simply cannot do without.

One of the accomplishments of the State Forester in recent years has been the development of an array of state forests—more than 19 million acres of woodlands—with Michigan, Minnesota, Pennsylvania, New York and Washington having more than one million acres each.

These state forests are real jewels in the nation's resource firmament for here an effort is being made to manage all of the renewable resources under multiple use. This means that the paramount use or uses are determined on the basis of their need as measured against the carrying capacity or potential of the land itself—and what is best for it.

What are some of these uses? Recreation is highly important and becoming more so. Like the Forest Service people with whom state foresters work very closely, the states are providing more and more camping and picnicking areas. State forests also grow timber as a crop and harvesting and marketing programs are improving. Some of them have now adopted continuous forest inventories, road systems are improving and timber sale procedures are being refined.

The amount of research that is carried on in the state forests is also amazing in view of all the other tasks state foresters and their helpers are expected to perform. How to control epidemics and fire, problems in genetics, water flow and management tests—these are some of the experiments being carried on today on state forests in addition to the never-ending planning for tomorrow's needs.

In previous times, the state forester not infrequently devoted himself primarily to holding fires in check and making sure timber operators lived up to their contracts. Today, that is all changed for he manages both his parks and forests according to the latest proven scientific research available. He also is keenly concerned with the number of out-of-state licenses he counts in the forests and parks, for recreation has become big business in these areas. He concerns himself with the protection and improvement of wildlife habitat in his forest and he wants to see streams and lakes under his jurisdiction managed so that they can provide plenty of fishing.

In short, this anchor man with the complex job has become a land manager in every sense of the word and he is as close to you as your nearest woodland or lake. You can best help him by coming to his assistance when his far-reaching programs run into difficulty in legislative chambers where elected officials do not always see eye to eye with him on your state's resource needs. He must have the understanding of people who appreciate the breadth of his work and are willing to give him the support that he requires to do his job. J.B.C. *(Originally published by the National Wildlife Federation)*

BULLETIN

The Board of Directors of The American Forestry Association on February 24 endorsed S. 3051, the bill which incorporates the proposals of Secretary of Interior Fred A. Seaton for amending the Klamath Indian Termination Act. In a resolution that was unanimously adopted, the board said the Seaton proposal represents a valid, constructive answer to a "very difficult, many-sided problem."

The Seaton proposal, introduced by Senator Neuberger "by request," would convert the Klamath marsh to a National Wildlife Refuge. Industry would be given an opportunity to bid on the Klamath forest at not less than its appraised realization value. The timber appraisal set at 121.6 million dollars has now been approved by Interior. In the event industry failed to meet Interior's terms, the forest would become a part of the national forest system. (Additional Klamath articles on pages 24 and 25 and 77. Next month Senator Neuberger presents his views on this controversial question.)

Reading about RESOURCES

By MONROE BUSH

The Countryman from Hyde Park

ON May 8, 1911, Franklin D. Roosevelt, the very young solon from Poughkeepsie, arose from his desk in the state senate chamber in Albany to demand an explanation of Senator Frawley of the delay in reporting a bill to appropriate $50,000 for fire protection in the state's forests.

After angry words between the two men Roosevelt declared that "As a result of the committee's [Frawley's senate finance committee] failure to act, hundreds of thousands of dollars' worth of property is liable to go up in smoke at any time, and here [pointing to Frawley] is one of the men responsible for this situation."

Unable to contain himself longer, State Senator Robert Wagner jumped to his feet, shouting, "Senator Roosevelt has gained his point. What he wants is a headline in the newspapers. Let us proceed to our business."

The senate in Albany did indeed proceed to its business; but in the thirty-four years remaining to him, Franklin Roosevelt proceeded to speak again and again on the subject of conservation. To some, he pleaded the cause of natural resources with great perceptiveness and conviction. To others, he spoke merely in an expedient play for the spotlight.

Was F.D.R. deeply and truly concerned for the forests, the soil, the parks and the wilderness of our country? Or was Senator Wagner right, that what Roosevelt wanted was "a headline in the newspapers?"

No man ever worked with F.D.R. who was not perplexed by the question of his sincerity. The difficulty lay, of course, in Roosevelt's refusal to reveal even a glimpse of the inner reactions, the hidden impulses, the motivations with which he, like every man, confronted the choices and decisions of life. He was never really understood by anyone.

Perhaps the best light we will find on the question of his sincerity as it pertained to conservation is offered in *Franklin D. Roosevelt & Conservation, 1911-1945* (ed. by Edgar B. Nixon. Franklin D. Roosevelt Library, Hyde Park, N. Y. 1957. 2 vols. $9.50). This huge compilation of his papers gives a detailed sweep of F.D.R.'s unflagging awareness of the nation's renewable resources. Every reader must be his own juror. But whatever your decision or mine, there is here the vivid picture of a man who battled loudly for a "new look" for the living wealth of the land, and who was directly responsible for achieving greater change in resource management than any other single individual in American history.

As a state senator F.D.R. identified himself with the current resource issues. In 1911, only a few months in office, he was appointed chairman of the Forest, Fish and Game Committee. So active was he in these matters that by June of that year Andrew D. Meloy, the president of the New York State Fish, Game and Forest League could write to Roosevelt: "While it is true that your name has been associated with many worthy endeavors to lift public spirit to a higher plane, none of your activities will so worthily fix your place in the public estimation as your consistent support of the bills to conserve our wild life."

There was in these days no question which side of the fence F.D.R. was on. His sponsorship of the Roosevelt-Jones bill in 1912 called for not only more effective fire protection, but state-controlled cutting on private forest lands, "to prevent private owners from denuding a section by cutting off the timber, big and little." Gifford Pinchot appeared and argued in support of this measure at the committee hearing.

These interests seem to have been scarcely diverted by his naval responsibilities, when Roosevelt moved

(*Turn to page* 70)

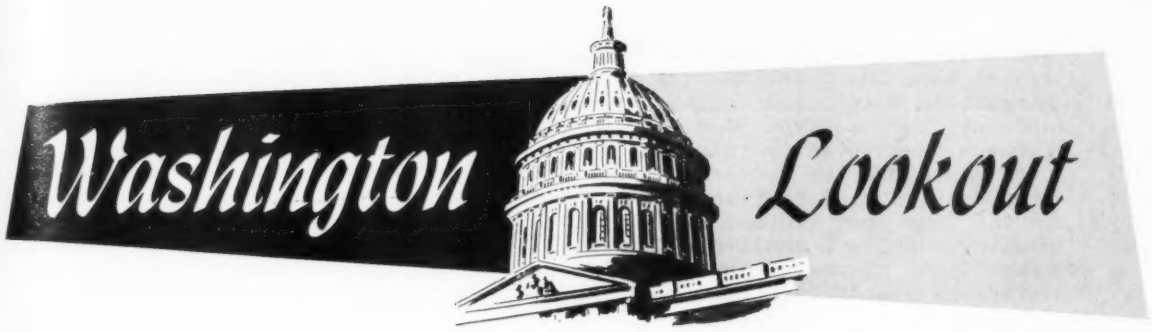
F.D.R. TO THE CONGRESS, 1935

"During the three or four centuries of white man on the American Continent, we find a continuous striving of civilization against nature. It is only in recent years that we have learned how greatly by these processes we have harmed Nature and Nature in turn has harmed us. . . .

"In recent years little groups of earnest men have told us of this havoc; of the cutting of our last stands of virgin timber; of the increasing floods, of the washing away of millions of acres of top soil, of the lowering of our water tables, of the dangers of one crop farming, of the depletion of our minerals—in short the evils that we have brought upon ourselves. . . .

"Men and Nature must work hand in hand. The throwing out of balance of the resources of Nature throws out of balance also the lives of men. . . ."

"Franklin D. Roosevelt & Conservation"



By ALBERT G. HALL

HOUSE ACTION ON APPROPRIATIONS FOR THE DEPARTMENT OF THE INTERIOR and related agencies, including the U. S. Forest Service, has been completed. The House Appropriations Committee pared $1,339,000 from the $413,145,600 budget request. Net reduction from 1958 appropriations amounted to $43,104,000. No amendments were made on the House floor. Budget estimates for the Bureau of Land Management, the Bureau of Indian Affairs and the forestry functions of the National Park Service were approved without change. The House directed the National Park Service to defer a proposed expenditure for rehabilitation and restoration of the U. S. Mint in San Francisco and to program the $600,000 budgeted for that purpose to provide for "urgently needed campground, trailer, and picnic facilities in the national parks."

FOREST SERVICE APPROPRIATIONS as approved by the House are $851,000 greater than the budget request. An additional $500,000 was granted for construction of housing for Forest Service field personnel. Other national forest management activities were approved at the same level as in the current fiscal year. For forest research the budget estimate of $12,128,000 was approved. For forest roads and trails, the House added $651,000 to the budget estimate for a total of $23,750,000. This addition plus a carry-over balance of $850,000 from current fiscal year will provide a total of $24,600,000 for 1959. Budget estimates of $50,000 for acquisition of lands for the Cache National Forest, Utah, plus appropriation of $10,000 from forest receipts were approved. A request for $300,000 for acquisition of lands in the Superior National Forest, Minnesota, was disallowed; however, carry-over funds amounting to $200,000 will be available for continuing the purchase of private lands in the canoe country wilderness area.

IN APPROVING THE BUDGET REQUEST OF $12,195,000 FOR STATE AND PRIVATE FORESTRY cooperative activities of the Forest Service, the House accepted the budget recommendation that federal assistance to the states in forest tree planting be curtailed. In reporting the bill, the Committee stated: "The decrease reflected in the budget estimate will leave available $258,000 for cooperation in forest tree planting under Section 4 of the Clarke-McNary Act. This program was undertaken in 1924 to encourage the planting of trees on inadequately stocked state and private lands. Since that date, the financial responsibility assumed by the states and private owners has increased to the point where the federal cost share is now only about 20 percent. As the reduction proposed for 1959 in the federal share is relatively minor with respect to the individual states, it is believed that it can be readily made up by increased contributions from the states and private landowners. It should be noted that large amounts of federal funds are also made available under other programs for tree planting including the Agricultural Conservation program, the flood-prevention program, and the soil bank. For example, under the latter program, it is estimated that $8,500,000 will be available in fiscal year 1959 for tree planting." Other state and private cooperation items remain unchanged from the budget request and from the amounts appropriated for the current year: fire control, $10,043,000; forest management and processing, $1,510,000; general forestry assistance, $384,000.

THE PROGRAM TO REMOVE WHOLE FARMS FROM AGRICULTURAL PRODUCTION by permitting owners to bid for federal "rental" prices on lands converted to the conservation reserve phase of the soil bank program fell far short of its goal in at least three

(Continued on next page)

states. Farmers in Illinois, Nebraska and Tennessee wanted more for their land rental than the Department of Agriculture was willing to pay. Bids made by farmers in Maine, the fourth state in which the experimental plan had been offered, have not yet been studied. Purpose of the program was to allow the farmers themselves to judge the fair rental value of their lands, under long-term contracts for converting them to tree or grass cover, water storage or other soil-saving practices. If a successful program could have been developed in the four test states, it was planned to extend the program throughout the country. While a small proportion of the farmers bidding under the plan offered their lands at rentals which the Department of Agriculture felt were reasonable, the number was too small to warrant the development of a special program.

LIMITATION OF WITHDRAWALS OF PUBLIC LANDS FOR MILITARY PURPOSES has finally been approved by both Senate and House. The conference report on H.R. 5538, introduced in the first session of this Congress by Representative Engle of California, has been adopted by both Houses. It provides that withdrawals, reservations, or restrictions of more than 5,000 acres of public lands for military purposes shall not become effective until approved by act of Congress. For such areas as are approved, the military agency involved must develop a plan for multiple-use consistent with the military purpose for which the land is reserved. Delay in final passage of the bill, which had been passed in the first session by both House and Senate, was occasioned by varying amendments to exempt certain areas which had been temporarily reserved from the public lands but which are still being used by the military agencies.

HEARINGS ON THE LONG BILL FOR STATE-BY-STATE LAND STUDIES are being requested by the Chamber of Commerce of the United States. The bill, S. 2579, introduced by Senator Long of Louisiana, seeks the establishment of federal-state land study commissions and a national land study board of review to determine present landownership patterns and to recommend such adjustments of ownership as may be necessary to assure efficient management of federal, state and private lands. Under the terms of the bill, studies would be made in only those states that request them, and any adjustments made as a result of the studies would be subject to Congressional approval.

SEPARATION OF SURFACE AND MINERAL RIGHTS IN MINING PATENTS granted on national forests is being sought by Senators Neuberger and Morse of Oregon, Smith of Maine, Mansfield of Montana, Humphrey of Minnesota, Carroll of Colorado, Douglas of Illinois, Clark of Pennsylvania, and Proxmire of Wisconsin, and by Representative Porter of Oregon. The Senate bill, S. 3247, and House bill, H.R. 10633, provide for retention of surface rights by the federal government, allowing holders of mining patents to utilize only such timber as may be necessary to their mining operations, and to harvest such timber under cutting standards applicable to the national forest in which they are located. When Public Law 167 was enacted in 1955, it provided for elimination of the possibilities of abuses which had existed in the mining laws by making more stringent requirements as to mining development and by retaining federal rights to the surface on all claims, prior to patent. At that time, Senator Neuberger stated that the act failed "to go far enough and should not be mistaken for a permanent solution to the problem of multiple use of the surface and subsurface of public lands." He said, "It will still be legal, by proving a mining patent to public land, to convert to commercial gain the timber growing on that land — even though the timber has no relation to the mineral deposits, the discovery and development of which are the justification of the patent."

REDUCTION OF WILDLIFE HABITAT AS A RESULT OF FEDERAL AGRICULTURAL PROGRAMS is being protested by Representatives Reuss of Wisconsin and McGovern of Nebraska. They have introduced similar bills, H.R. 10641 and H.R. 10642 to amend the Soil Conservation and Domestic Allotment Act and the Soil Bank Act so as to end federal cost-sharing and technical assistance in farm drainage harmful to wildlife, and to create corresponding incentives for maintaining wetlands in the conservation reserve. Representative Reuss, in introducing his bill, said that within three prairie states, 1951-1955, Agricultural Conservation Program payments of $5,639,723 resulted in the destruction of 256,700 acres of waterfowl habitat, while the federal Fish and Wildlife Service spent $67,613 to acquire 3,462 acres of duck habitat. The drainage program, he pointed out, resulted in increased crop production, while the Soil Bank program is attempting to curtail crop production.

Editorial – Greeley Also Came East

By GEORGE A. GARRATT
Dean, School of Forestry, Yale University

Yale University is honoring the memory of one of its most loyal and distinguished sons in naming the William B. Greeley Memorial Laboratory, the newest addition to its School of Forestry facilities, now under construction. This action recognizes Bill Greeley's signal service to his forestry alma mater. The new laboratory will be devoted specifically to the education of young men for leadership in the fields of forest tree improvement and wood technology, in which the Colonel found particular interest in his later years.

Among all his admirable qualities, Bill Greeley's sense of duty was outstanding. In current fashion, we speak of "responsibility" rather than duty, but it all comes to the same thing: Recognition of a man's obligation to do more than criticize, to be more than a spectator of the world's stage. Greeley was a responsible man in every one of his activities. What naturally made a deep impression at Yale was his devotion to the School of Forestry, a devotion shown not in maudlin sentiment at reunions or merely in financial support. Greeley's contribution was much more valuable and expensive than these, for it amounted to nothing less than his unabating concern and many years of work on the school's behalf, in keeping with his enduring faith in Yale's important role as a privately endowed institution in the field of forestry education.

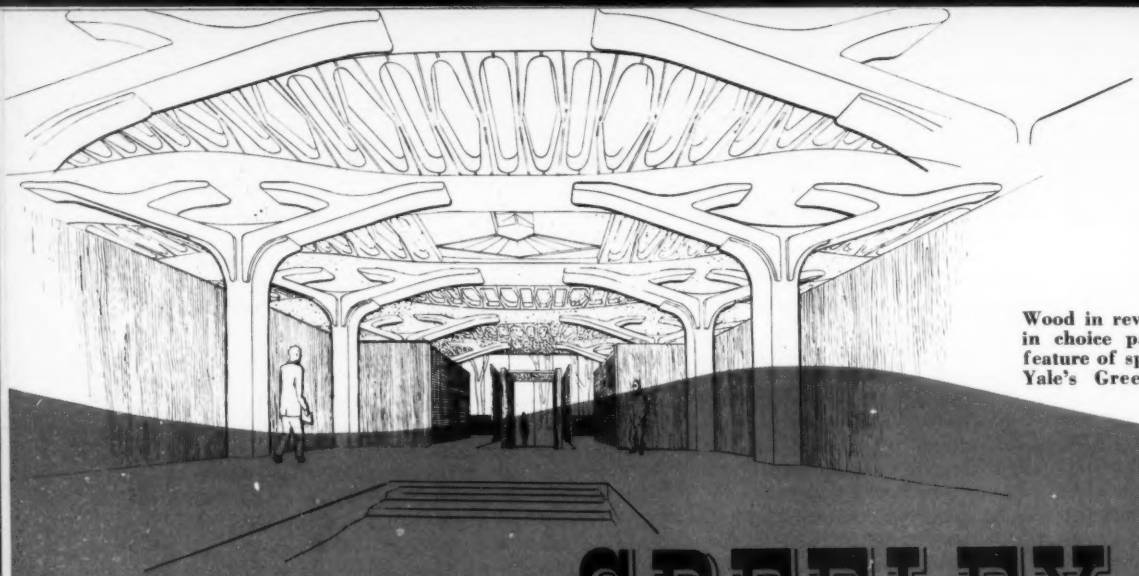
Early in his professional career, Bill Greeley contributed a number of distinctive firsts in the development of effective and lasting relations between the School of Forestry and its alumni. In 1905, a year after his graduation from Yale, he helped organize the School's Graduate Advisory Board. He served as its chairman for the next ten years and continued as a member until 1917, when he joined the Army to organize the Tenth Engineers Regiment (Forest) of World War I. He also took a leading part in the formation of the Yale Forest School Alumni Association in 1911 and was elected its first president. He was the first editor (1913-1914) of the *Yale Forest School News,* earliest of all the graduate alumni publications of Yale.

While the demands of high positions in public and private forestry in America required his full attention over most of his professional career, Bill Greeley never lost his attachment for the school that had provided his formal professional education. In 1949 this led him to accept with enthusiasm an appointment to the University Council Committee on the School of Forestry. In the committee's work, he took a leading role in formulating and promoting a long-range development program designed to ensure the school's position of leadership in American education. Characteristically, Bill Greeley brought to this undertaking not only an understanding of the extensive technical advances and opportunities of the post-war era, but also a ready and sympathetic appropriation of the problems of educational administration. It has been aptly noted that the Colonel "could be as hard as an axe handle" on some things, and he was notably firm in his convictions—a quality that applied to education in the classroom fully as much as to forestry in the woods.

In his very human and illuminating reminiscence that appears later in this issue, Stewart Holbrook speaks of Greeley's efforts to "civilize the Old Guard Lumberman," and then suggests that "education" may be an euphemism for "civilize." Most teachers would probably be willing to argue that to civilize and to educate are largely synonymous. Bill Greeley might have rejected "civilize" for its tactical limitations, but when he wrote and spoke of "teachers or policemen in the woods" he left no doubt as to the role he intended for education.

People *expect* professional teachers to trumpet the virtues of education. Unfortunately, it was still somewhat surprising to hear a forester like Greeley beating the drum for his old school. (The Colonel had no private axe to grind; in fact, in later life he flatly refused an honorary degree, primarily because the intent of the award might be misinterpreted.) His own distinguished career was enacted in the woods and in government and private offices. He was, in short, a far cry from the popular notion of the academician. Yet he recognized fully the need for learning and for teaching in the profession of forestry, and then he acted on his recognition and convictions.

In naming its new laboratory in honor of Colonel Greeley, Yale has had in mind much more than a monument of fitting size: The nature of the memorial must also be appropriate. There is, perhaps, a superficial paradox in the idea of naming what is to be primarily a research laboratory after a man who was himself no scientist, no technologist, no narrow administrator of research. Beneath the surface, however, lies a compelling reason for such action. For many decades, Bill Greeley seized, preached, and acted upon the doctrine that, as cheap virgin stumpage yields to forest management, "technology and tree growing" were inseparable. The Greeley Memorial Laboratory will house Yale's future research and graduate instruction in the technology of wood and its uses and in the physiological and genetic aspects of tree growing. It will be a powerful influence in molding some of the future leaders in forestry research and education both in America and abroad.



Wood in review as reflected in choice paneling will be feature of spacious lobby of Yale's Greeley Laboratory

GREELEY WI

LOOKING back thirty years, to the spring of 1928, in an effort to recapture the spirit of the times and place, it seems unlikely that the Pacific Northwest or, for that matter the lumber industry of the region, realized the importance of the arrival of Colonel William B. Greeley.

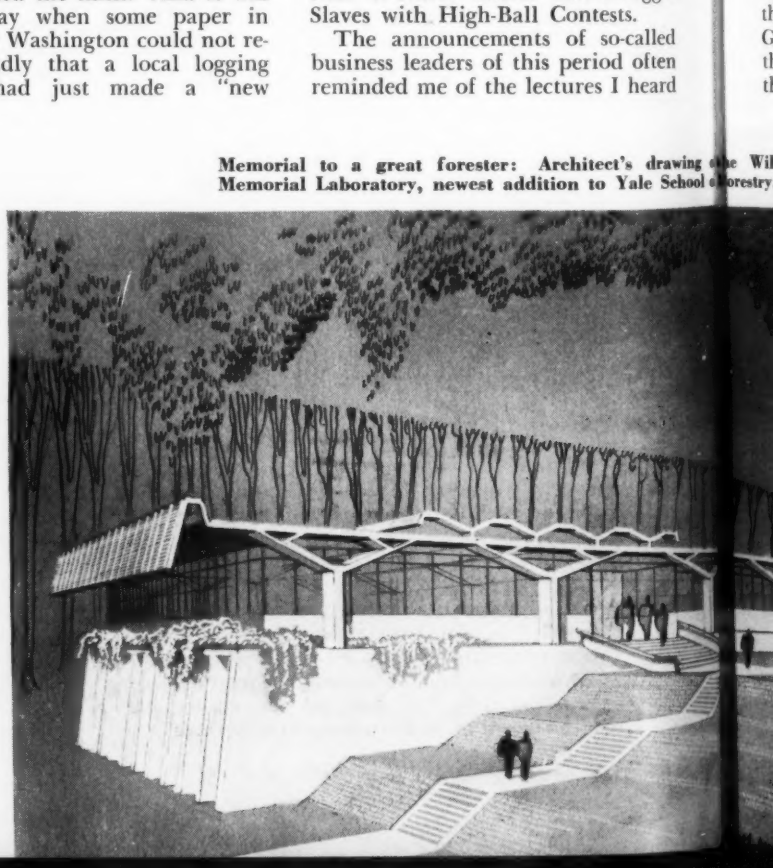
True, he had left his distinguished post as Chief Forester of the United States to take charge of the West Coast Lumbermen's Association, but that was no earth-shaking event. He was given a decent enough welcome, with quiet headlines that in no manner distracted from the accounts of dance-marathons, the antics of movie stars, and the raids of Prohibition agents on bootleggers and clandestine stills, one of which, I recall, was operating in conjunction with the boiler room of a small sawmill near Chehalis, Washington.

It was a period when the so-called business pages of daily newspapers had gone hog-wild reporting the all but incredible "gains" of the shares of virtually everything from United States Steel to a questionable outfit engaged in manufacturing a building material from sawdust mixed with glue and some sort of plaster. Even a number of railroads were listed as Blue Chip stocks.

Despite the fact that the per capita use of lumber in the United States had been falling steadily since 1906, new sawmills were being built all over the Northwest, in both the fir and pine districts. They were bigger, faster mills than were ever seen before. So were the refuse burners that accompanied the mills. And it was a poor day when some paper in Oregon or Washington could not report proudly that a local logging concern had just made a "new world's record production for one side in eight hours." The Wobblies (I.W.W.) had grown weaker in numbers but not in spirit; said a black studhorse headline in *The Industrial Worker:* Bosses Hornswoggle Slaves with High-Ball Contests.

The announcements of so-called business leaders of this period often reminded me of the lectures I heard

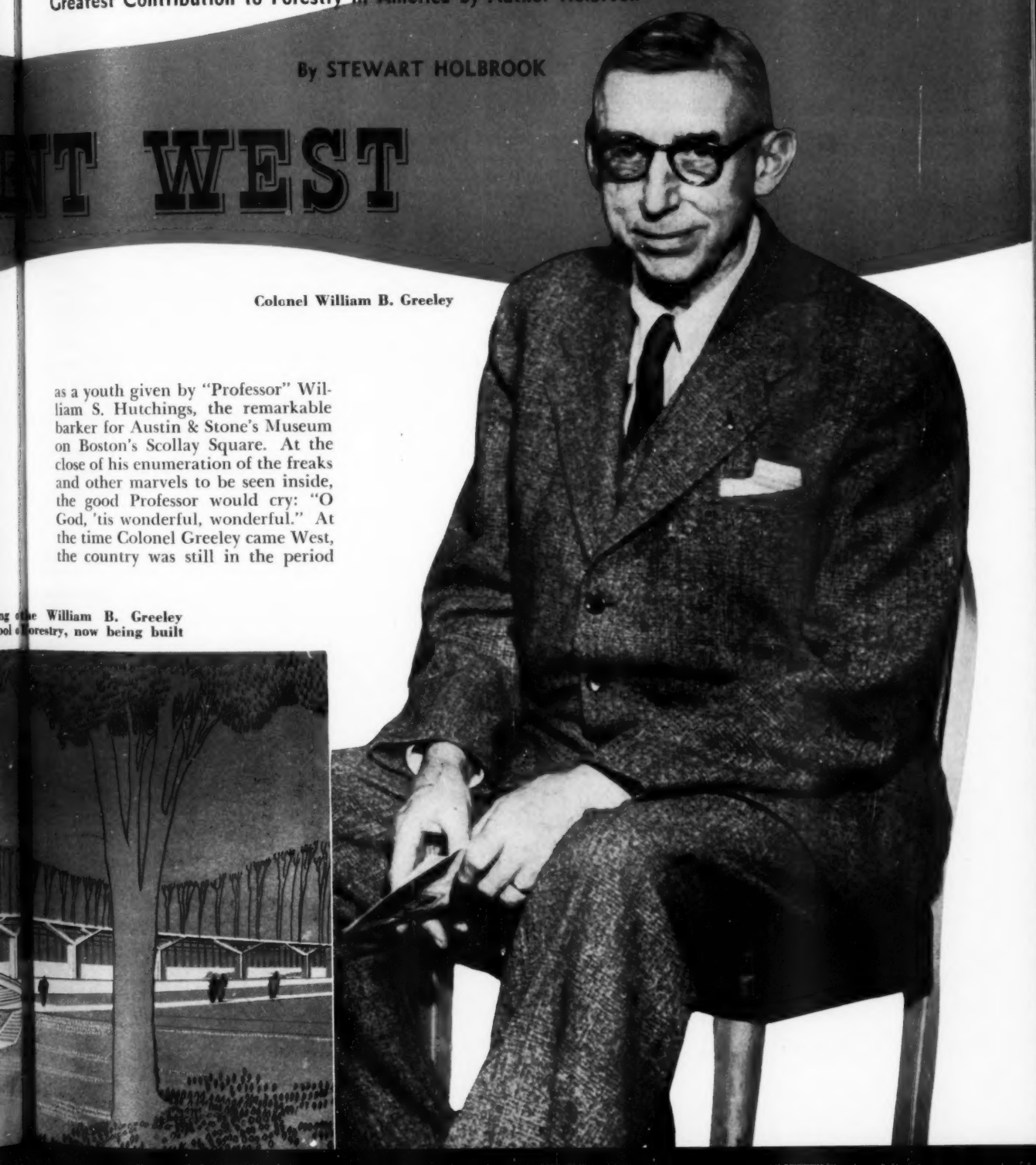
Memorial to a great forester: Architect's drawing of the Wil Memorial Laboratory, newest addition to Yale School of Forestry



"Civilizing" of Old Guard Lumbermen Seen as Colonel Greeley's Greatest Contribution to Forestry in America by Author Holbrook

By STEWART HOLBROOK

NT WEST



Colonel William B. Greeley

as a youth given by "Professor" William S. Hutchings, the remarkable barker for Austin & Stone's Museum on Boston's Scollay Square. At the close of his enumeration of the freaks and other marvels to be seen inside, the good Professor would cry: "O God, 'tis wonderful, wonderful." At the time Colonel Greeley came West, the country was still in the period

ng of the William B. Greeley
ool of Forestry, now being built

Greeley was first American-trained forester to become Chief of Forest Service

now known as the Roaring Twenties, and it was wonderful indeed. Almost sixteen months remained before the sudden collapse of the gilt-edged stock market gave warning of the reckoning to come.

To the generalization that neither press nor the industry quite realized the importance of Greeley coming West, I should make an exception. This was George S. Long, the Tall Pine of the Weyerhaeuser interests, who was perhaps more responsible for the event than any other person. I feel sure this wise lumberman, and probably a very few of his colleagues, knew *why* they needed Greeley.

In the first story I wrote about the Colonel, I quoted Mr. Long as saying "there is no one in America better fitted for the post;" and the head for this story referred to Greeley as: "The Man Who is to Direct Destinies of West Coast Lumber." I never in my life wrote a truer head.

Yet there was little in my story, or in other accounts at the time, to anticipate what turned out to be the Colonel's major accomplishment. This as I see it was what might be called the civilizing of the Old Guard lumbermen. If civilizing is too brutal a word, make it educating; but because I happened to know a fair number of the characters with whom Greeley had to deal, I think civilizing is no hyperbole.

What worried West Coast lumbermen in 1928 was less the reputation of devastating timber barons that was so generally applied to them, than the immediate condition of their markets. For the first time in three centuries lumber was really feeling the competition which had been building up for many years. The Chicago that burned in October 1871 was built of wood. The Chicago that rose from the ashes, at least the business section, was built of almost anything else but wood. The trend had continued.

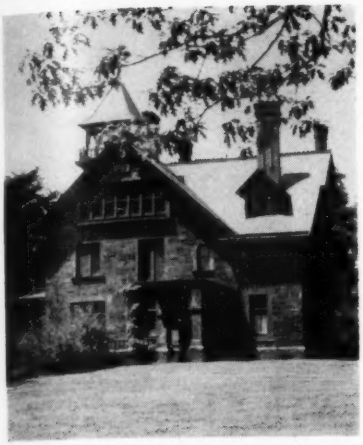
One of Colonel Greeley's first actions, in 1928, was to consolidate what had been organized as the West Coast Trade Extension Bureau—a significant title — into the parent West Coast Lumbermen's Association. When he announced a tentative annual budget of $700,000 for the consolidated group, he stated that more than one-half of this amount will be expended for developing and extending the markets for West Coast lumber products."

An old guard lumberman might be, and often was shocked at the mere idea of a company forester on his payroll; but he was always ready to ante-up for a war chest to fight what he called "substitutes for lumber" which, being substitutes, were naturally shoddy stuff. In this regard I find, on checking the report of a meeting I covered at Longview, Wash., on May 25, 1928, that though the Colonel said his group would make studies of timber supply in the Northwest, with special reference to new growth and the probable dates of its usefulness, he seemed to bear down hard when he came to the new department that was to devote its energies to "trade promotion, advertising" and the allied arts in this field.

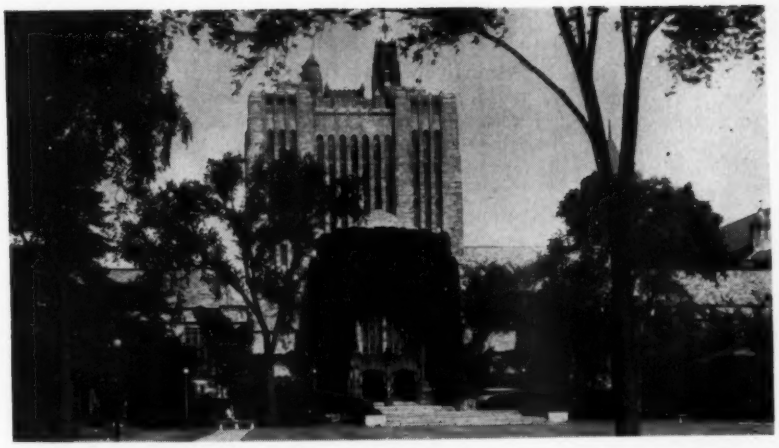
It wasn't long before employees of mills were holding meetings, on their own time, to discuss what could be done to promote the use of wood products. The 4L group (Loyal Legion of Loggers and Lumbermen) became particularly active in cooperation with the Wood Box Promotion Bureau. There was also a notable new campaign by red cedar shingle manufacturers against "the unfair building codes" which provided "penalties on lumber and wood shingles" in favor of "substitutes." For more than a decade "substitutes" was one of the dirtiest words in the lumber lexicon.

During his early years with the West Coast Association, I met Colonel Greeley at meetings or at arranged interviews. I never applied the much over-worked "Lincolnesque" to him, but his tall, loosely-knit figure did remind one of the classic Lincoln; and so did his use of an anecdote to illuminate a matter under discussion. He had a lively sense of humor, especially of the incongruous. He was not, however, the type to encourage black-slapping. He had an easy dignity which I took for granted was one of the endowments from generations of Congregational ministers, mostly New Hampshire Yankees. He was, as Jim Stevens has pointed out, familiar with the Bible from which he often quoted, commonly, so far as I recall, from Old Testament worthies. "Let

At 50th anniversary (1950) of Yale Forestry School were (l.) W. B. Greele H. H. Chapman, A. F. Hawes, W. J. Damtoft, F. W. Besley, G. A. Garra



In Bill Greeley's day the Yale Forestry School had one building Marsh Hall



Sterling Memorial Library at Yale, which has one of most beautiful campuses in the country. The Greeley Laboratory will also enhance attractiveness of grounds

him tarry in Jericho 'till he grows a beard," he once said of a very young association employee who was a little too eager to get ahead.

His memory was truly remarkable. I discovered this when I asked him about his early tours of New England in his student and Forest Service days. My first logging was done there, and I liked to get him going about First Connecticut Lake, Indian Stream, and Phillips Brook. The Colonel had seen these places in company with Austin Cary, whom he called the outstanding forester of the North Woods; and he told me things I hadn't known about the Van Dykes and other logging operators of that region. He also spoke of his relatives who for generations had run a small sawmill on Vermont's Winooski River, even when that stream was called the Onion, and had cut "spruce frames" for the Boston market.

The Colonel always spoke with great clarity, as if he had long since thought the whole matter out. Born as he was in New York State, and reared in California, he nevertheless had a distinct New England accent for several words, among which were "half" and "aunt" and "Nashua." He told Yankee stories well, and I think he particularly enjoyed mimicking the deepest Maine pronunciation of "coat" (cut) and "road" (rud).

Thirty years ago I wrote of the new secretary-manager of the West Coast Lumbermen's Association that "Greeley's antecedents, his early life, and his later training" all seemed to fit him for the breadth of view necessary to judge rightly the forestry problems of the United States. I mentioned that he was of New England parentage, of Scottish descent, and apparently "possessed the characteristics of this background." What I meant by this was that nobody could possibly have a better background, but I had learned to be discreet. . . .

Born on September 6, 1879, in Oswego, New York, he was brought while still a lad in a sailing vessel around the Horn to California. If a windjammer were slower than a steamer, then it was also cheaper, and thrift was never a crime in the native region of the Greeleys. The family settled in the San Jose Valley. After high school at San Jose, young William engaged briefly in ranching, taught school, then entered the University of California from which he was graduated in 1901 with a bachelor of science degree. He went on to the Yale School of Forestry and, in 1904 with a master's degree in forestry, he went to work for the United States Forest Service as a forest assistant.

Greeley served in the South Appalachians, in New England, in California. In 1905 he was a forest inspector, in 1906 superintendent of the Sequoia National Forest. In 1907 he married Miss Gertrude Maxwell Jewett at Berkeley, California. Three sons and a daughter were born to the Greeleys.

Greeley continued his steady progress in the Forest Service, becoming district forester at Missoula, 1908-1911. During this tour of duty he was field commander of the army of more than 3,000 foresters, loggers, ranchers, and other men who sought to stem the several holocausts that combined to sweep three million acres of Montana and Idaho woods, to take eighty-five lives, and leave much of the timberland of those states desolate. (Little wonder Greeley came to display an easy sense of command long before he was commissioned in the United States Army.) The smoke of the fires of 1910 had little more than cleared when he was moved to Washington and made assistant to the Chief Forester.

When in 1917 the United States entered the World War, Greeley went to France as a major attached to the 10th Engineers; was later made lieutenant colonel and given command of the 10th and 20th Engineers

(Forestry). When the Armistice was signed November 11, 1918, he was in charge of 21,000 forestry troops, said to be the largest regiment ever organized in the American Army, possibly in any army. Greeley's Boys were then operating some ninety-odd sawmills producing more than two million feet of lumber products daily. Greeley came home with ribbons denoting the Distinguished Service Medal (U.S.), the Legion of Honor (France) and the Distinguished Service Order (Great Britain).

The arrival of the 20th Engineers started something in French logging circles. "For one thing, we almost started a war with France," or so Paul Hosmer, one of Greeley's Boys remembers. Hosmer left employment with the Brooks-Scanlon Lumber Company, Bend, Oregon, to join the 20th Engineers. He insists that a French forest inspector tried to fine Hosmer's company five francs each for every twig the Americans broke. Of the French lumberjacks, Hosmer swears, the felling of a midling sapling was an occasion. "It required a full day," said he, "for him to untie all the wires that made a French forest look like a hairnet from below. And no Frenchman ever learned to talk with both hands on a saw. He can hear everything but he can't say a word."

I have heard both Major John D. Guthrie and (the late) Captain Fred Ames, who were with the 20th Engineers, recall some notable crises with French foresters, many of them hilarious to an American. But Colonel Greeley would admit only that there were occasional differences of opinion, while he greatly admired the French for their almost fanatical forest conservation. He liked to quote a French forest officer's observation to a bunch of impatient Americans. "Our forests," said he, "have fought several wars before this one."

In 1920 Chief Forester Henry S. Graves resigned. Greeley took his post, the first American-trained forester to hold that position. His predecessors, Fernow, Pinchot and Graves, all received part of their training abroad. When Greeley took over as chief, the Forest Service was already well indoctrinated with the beliefs of Gifford Pinchot, a Connecticut Yankee born in 1865 and born, too, a crusader so effective as to warrant the title, sometimes applied to him, of The Lion of Judah.

Trained in France in forestry, young Pinchot returned home and was presently made secretary of a committee instigated by The American Forestry Association to study the highly controversial subject of the Forest Reserves, which were the thirteen million acres of public domain set aside, during President Harrison's administration, in this new classification of federal lands. For the next fourteen years Pinchot displayed astonishing vigor in the planning and execution of successive moves for national conservation. It is not too much to say that Pinchot, and Theodore Roosevelt, also something of a crusader, were largely responsible for organizing the Forest Service.

Under Pinchot the Division of Forestry grew in half a dozen years from a staff of eleven men to more than

Left, as the chieftain of WCLA, Greeley knew how to encourage and he knew also how to prod. Big industry tree farms bear his stamp

Right, as district forester, chief forester or industrial forester, Greeley got users out on the land to discuss problems such as grazing

Below, the Colonel William B. Greeley Nursery located at Nisqually, Washington, is operated by the Industrial Forestry Asso.

Left, late Sen. C. L. McNary, with Greeley's help, authored history-making forestry bill

Right, the Bitterroot Range where District Forester Greeley fought raging fires in 1910

Below, foresters who did much to promote profession, E. E. Carter, W. B. Greeley, A. Cary

eight hundred, a large number of whom were trained in the newly established forestry schools at Biltmore, Cornell and Yale. One of these fledging foresters was William Greeley who got his degree at Yale under Graves, where Pinchot was an occasional lecturer, and got his first job from Pinchot as chief of the Forest Service.

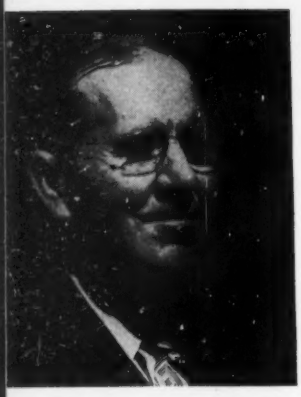
Pinchot's dynamic personality and force of character were such as to imbue, as remarked, virtually all who came in contact with him with the "Cause" of forestry. Like many a crusader in other fields, Pinchot's beliefs hardened into dogma. To doubt Pinchot was to doubt Gospel, so far as "Conservation" was concerned. Not too many of the young foresters who came under his influence were inclined to doubt Scripture.

Young Bill Greeley, however, not only developed beliefs of his own; his backbone was just as stiff as

Greeley (l.) with Holbrook

About the Author

Author Stewart Holbrook's woods background and close association with Col. Greeley well qualified him to write this biography. Holbrook's logging career dates back to his high school days when he worked between terms in his father's logging camps in Vermont and New Hampshire. He later worked for the Connecticut Valley Logging & Driving Company, but this was interrupted by World War I. However, he managed to get back in time to go down with the drive in 1919. Holbrook worked for several other lumber companies until 1923, when he left the woods to become a reporter on *The Lumber News* of Portland, Oregon. He was named editor of the paper in 1927, but resigned in 1934 to became a freelance writer. Holbrook was appointed the first director of Keep Washington Green in 1941. A frequent writer for *American Forests*, he is the author of several books. His latest is *Dreamers of the American Dream*, 1957.



Jim Stevens carried ball for many Greeley projects

Hal Simpson carries on at WCLA where Greeley left off

Greeley received tree farm certificate from Washington's Governor Langlie (center) and W. D. Hagenstein

Pinchot's. It was a heritage, perhaps, from generations of Greeley Congregationalists who were bound by no bishops, no hierarchy, no word from Sinai. Individual conscience was their guide. Since the days of the first Mathers, a Congregationalist preacher who differed from a majority of his flock simply pulled up stakes and, along with his minority, set up a new congregation, often within a mile or two of the old. Here he could preach his heresy be it the Armenian, or the New Light, or whatever, leaving later generations to marvel at the fact of two Congregational church structures in a town whose population could scarcely have filled one.

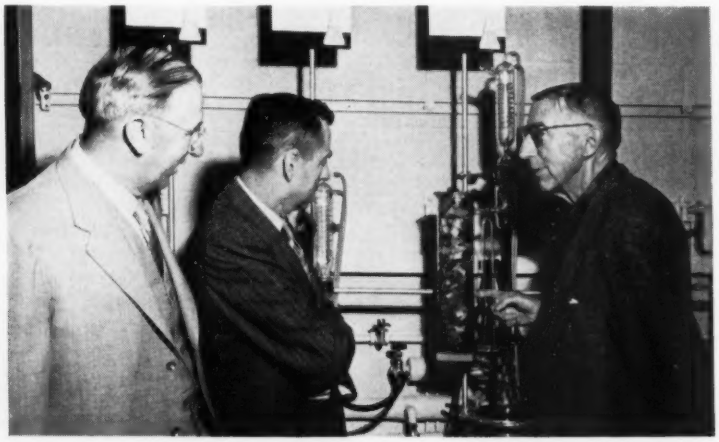
Forester Greeley had gradually developed a heresy of his own. It concerned relations between the Forest Service and the lumber industry. Both Pinchot and his chief, Roosevelt, had been outspoken in their condemnation of lumbermen as devastators. Indeed, they are properly given credit for the classic figure of the horned Timber Baron, a fiend incarnate. By 1910, or thereabout, this favorite of cartoonists and editorial writers had become a public ogre who sweated destruction from every pore and ate up everything except the sawdust, which was left in unsightly piles, and the slash which was left where it lay until weather and a spark made it into a forest fire. The Timber Baron had already grown a set of horns like cant dogs. His tail was the long curving ribbon of a bandsaw. Wherever this hideous giant passed, his wake was marked by stumps and smoke.

The charge was somewhat exaggerated. The loggers left stumps but they also left farms and towns and cities.

As Colonel Greeley himself described his heresy, he and Pinchot looked at the economic side of the forest picture through different glasses. Pinchot saw an industry wedded to fast and destructive exploitation that it would do nothing to change. Greeley saw a forest economy overburdened with cheap raw material and with taxes that demanded liquidation of the timber.

Pinchot, Greeley thought, saw a "willful" industry. Greeley saw a "sick" industry.

The breach became public knowledge in 1916 when Greeley wrote the Forest Service report on the lumber industry. In it, he attempted to give a factual, unemotional look at the underlying economic troubles. Chief Forester Henry S. Graves thought



Greeley at dedication of Crown-Zellerbach laboratory in 1955, with E. P. Stamm (l.) and Truman Collins

Col. Greeley urged AFA to come West too, so the 1954 meeting was held in Portland

Col. Greeley got a chuckle out of awarding tree farm certificate to Reuben B. Robertson, head of Champion Paper & Fibre Company

the report sound. He signed it, and it was officially published.

Gifford Pinchot, no longer with the Forest Service, though still a powerful force among its foresters, read the report and raised his voice. It was, so he told the United States, a "whitewash of destructive lumbering."

Greeley remained with the Forest Service, but did nothing to qualify his report. "I found," he said much later, "that I had lost caste in the temple of conservation on Rhode Island Avenue in Washington." (Pinchot's home.)

Perhaps this is the place to mention that so far as I have been able to learn, Greeley never spoke ill of Pinchot, whom he often characterized, together with Theodore Roosevelt, as just the right men needed to dramatize the necessity of forest conservation. Their crusade, he observed more than once, changed American public opinion to a remarkable degree. It all but ended the "old tradition of free land, free timber, and inexhaustible forests." Not the least of its influence was the training of men in technical forestry.

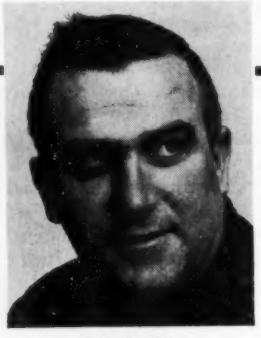
When the new century opened

(*Turn to page* 52)

Col. and Mrs. Greeley and grandson on their Port Gamble Tree Farm

Oregon VIEWS

Klamath Water Big Cog in Oregon's Prospects



Bill Jenkins

By BILL JENKINS

Managing Editor,
Klamath Falls Herald and News

THREE years ago an adjourning Congress hastily pushed through Public Law 587 under the terms of which the vast Klamath Indian Reservation in Klamath County, Oregon, was to be removed from federal trusteeship. Implementation of the bill included a sale of the reservation's assets to provide the necessary monies with which to "pay off" those tribal members who expressed the desire to take their fair share of these sale monies and withdraw from the reservation.

Since that time a deepening concern has been expressed by Westerners and by timber interests as well as by the various conservation groups as to the wisdom of carrying out the original provisions of PL 587. Under the terms of that ill-advised document the resources of the reservation are to be sold. Ninety eight percent of the total value of the reservation lies in its vast stands of sawlog and pulp timber. An appraisal report on the reservation issued February 3, 1958, by the Management Specialists lists the total realization value of the assets as $121,643,918. Of this total 95 timber units account for $118,391,610 of the overall value.

It has become increasingly clear that if the terms of the law are carried out to the letter this timber will be sold at fire sale prices in order to provide the necessary funds for those withdrawing members. Under these terms one of two things is very likely to happen: either the timber will be sold off at depressed prices in numerous small lots which would result in a boom-and-bust era of logging activity, or the tribal members would be kept waiting for their money if they are to receive retail value. In either case it is improbable that any effort would be made to maintain a sustained yield basis for harvesting the timber. At present only federal purchase seemingly could bring about both immediate funds and sustained yield practices. And in view of present circumstances it is believed to be highly unlikely that such a purchase will be authorized by the present Congress.

But whatever becomes of the timber in the final analysis, there is another all-important issue to be considered. The preservation of the Klamath or Upper Basin watershed and the full utilization of the lands of the reservation and adjacent areas regardless of the timber crop.

Here it might be wise to afford a glance at the existing circumstances. The largest stream in the stretch of Pacific Coast between the Columbia and the Sacramento is the Klamath River. The Klamath originates in the Upper Lake, which in turn drains into Ewauna Lake and becomes the actual headwaters of the Klamath River. Half of the total amount of water being fed into Upper Klamath Lake, from which stems the river, originates from rivers and streams within the boundaries of the Klamath Indian Reservation. In addition to this a further large portion of the water supply comes from minor creeks and springs, almost all of which are located either on the reservation or immediately adjacent to it. Most of the ground water in the Upper Basin area is believed to originate in the water-bearing underground strata on the reservation.

Two of the principal rivers, the Sprague and the Williamson, can be said to provide nearly half the total flow to the Klamath River. The combined flow of these streams into the Upper Lake is some 660,000 acre feet per year. Total flow of the Klamath River at Keno, according to a 49-year record, is 1,165,000 acre feet. Any threat to these streams would undoubtedly alter the situation to a great degree.

A further study of the situation will show that the runoff of the Sprague and Williamson Rivers below Chiloquin, largest town within the reservation and located near the center of the area, registers 42.4 percent of the total during the months of March, April and May. The Sprague River alone, above Chiloquin, shows a runoff of 49.4 percent during these same three months.

In short, nearly half the stream flow is dashing merrily on its way to the sea during a relatively short period and at a time when full ultilization of the water is not realized. If the forest cover of the watershed were removed it seems reasonable to assume that this early runoff would be greatly accelerated and the consequent loss of water that much greater.

Present storage capacities are inadequate to hold any increased early runoff and it is highly unlikely that

(*Turn to page* 46)

KLAMATH SITUATION

Klamath Timber Should Be in National Forests

Robert W. Sawyer

By ROBERT W. SAWYER

Former Editor
Bend (Oregon) Bulletin

AT some time before the adjournment of the Congress, final decisions will be made in the long-debated Klamath Indian situation. On these decisions hang results amounting on the one hand to grave damage to a leading industry and hardship to many depending on it, calamity to a region and the virtual destruction of supremely important natural resources, or, on the other, stabilization of the industry, prosperity with new tax income for the region and the conservation of those resources. Whichever decision is made the cost will be substantial, but higher, much higher and more widely spread if out of it flow the former rather than the latter results.

The Klamath situation, as this is written, is as set up in Public Law 587 of the 83rd Congress as amended by Public Law 132 of the 85th and by the action so far taken in execution of the mandate of that legislation. This includes, in particular, an appraisal of tribally-owned assets, currently in the process of being completed. Present estimates indicate that approximately 98 percent of the real property value of tribally-owned lands consists of forest lands and the timber thereon.

After the completion of the appraisal each tribal member will be given the opportunity to withdraw from the tribe and be paid his proportionate share of the value of the tribal property. Those who do not withdraw will remain in the tribe and participate in a tribal property management plan.

It is contemplated by the law that funds with which to pay the tribal members who elect to withdraw shall be secured by sales of selected portions of tribal property. (Sec. 5. [a] paragraph 2.) A reading of the Termination Act shows that it is expected that the selection shall be largely of Reservation timber and in view of that fact the forest lands are being appraised in a relatively large number of "economic" units of various sizes. These units have been established and will be sold in a manner that should bring the highest total return when sold in sufficient quantity to produce the sums necessary to meet the requirements of the law with respect to the withdrawing members of the tribe. The latest estimate of the total volume of sawtimber contained in all units is 4,300,000,000 feet.

Title to the land will pass with the timber. Thereafter the only regulation covering the logging operations will be the Oregon Forest Conservation Act which requires the leaving of only a few small seed trees per acre.

Here it should be noted that under the law no sales may be made "prior to the adjournment of the second session of the Eighty-fifth Congress," an event not likely to occur much, if at all, before this coming August. Then there is the requirement that the realization of income from the sales and the distribution of their shares to the withdrawing Indians must be completed by August 13, 1960. Thus a short two years is the authorized period within which the sales are to be made.

All of the foregoing, the appraisal, withdrawal by the Indians and preparations for sale is, of course, preliminary to the basic and ultimate purpose of the law—the termination of federal supervision over the Klamath Tribe maintained since 1864 by the United States as trustee for these Indian wards.

At the present time this Klamath reservation forest is being managed under the practices known in modern forestry as sustained yield. Annual sales of the timber are made but only so much in volume as is being added by growth on the remaining forest. Thus there is assured a permanent forest, a permanent supply of logs for wood-using industry in the region, permanent employment for woods and mill workers and a sustained annual income for the Indian beneficiaries. Such permanence extends benefits and values throughout the local, the state and even, to a degree, the national economy.

Sales from the reservation forest (1949 to 1954, inc.) have averaged 72,000,000 board feet a year. From these and other lesser resource sales there has been an annual income to each member of the Klamath Tribe —man, woman and child—of approximately $800. For the end product ready for the customer there has been, by conservative estimate, in payment for labor, material and supplies an annual distribution of over $3,000,000 of which over $2,000,000 was for wages. This is in addition to the annual stumpage return of ap-

proximately $2,000,000 which has contributed substantially to the welfare of the Klamath Indian people.

In that same period (1949-1954) the sawmills of the Klamath region have averaged an annual production of 300,000,000 board feet, the volume above the 72,000,000 feet from the Reservation having come from privately-owned lands and the national forests of the region. And, incidentally, it should be noted that only the larger operators own timber lands from which to draw. Small mill operators, of which there are 13 in the region today, are almost entirely dependent for their log supplies on the national forests and on the forests of the Klamath Reservation. Sustained yield management of these forests is essential for the continued existence of these small mills.

On the basis of estimates that the Reservation appraisal will be $110,000,000 and that 70 percent of the Indians will withdraw from the Tribe, timber with an appraised value of $77,000,000 must be sold in order to pay each his share estimated to be approximately $50,000. It is inexorably provided in the Termination Act that this shall be done by August 13, 1960.

What portion of the 4,300,000,000 board feet of timber on the Reservation must be sold to meet this obligation depends, of course, on the number of tribal members who elect to withdraw. If, as has been assumed, 70 percent of the tribal members elect to withdraw the amount of timber to be sold in order to pay for their interests would be approximately 3,000,000,000 board feet or almost twice the total annual cut in all Oregon east of the Cascades for the latest period for which figures are available. The assumption cannot be made, however, that such sales will bring a fair return for the withdrawing members if sales are made as the law now contemplates. Such a sales program is bound to bring much lower stumpage prices per thousand board feet than those received from routine sales of small quantities of timber. Even though next August, after sales are begun, there is a recovery from the present depressed condition of the lumber market, prices will be lower, for here will be a forced sale attended, on the part of the seller, with all the losses and depreciated prices that a forced sale entails. Here will be a sale in an amount that may be as much as 10 times the annual capacity of the region's sawmills, with each successful bidder required to pay cash on the acceptance of his bid and all sales to be completed by August 13, 1960.

This means the sales at depressed log prices of billions of board feet of the forest property beyond the sales made under ordinary and proper forest practice. It means a glutted timber market affecting stumpage prices, and consequently mill production and woods and mill worker employment far beyond the Klamath region. It means the end of sustained yield on a substantial portion of the Klamath Reservation forest. It means an orgy of timber cutting during a relatively short period of time and then an area and an economic desolation affecting thousands. The Klamath Reservation forest as a base for timber, for employment, for industry, for recreation and for water conservation will be largely destroyed.

Here let it be agreed that not all the purchasers will proceed at once with the harvest of their timber. Many, however, will undoubtedly do so. Otherwise they gamble on the log and the lumber market and on the hazards of losses by insects and fire while interest on their investments runs and taxes will be payable on property in their ownership (land, timber and machinery) on each January 1. Smaller operator-purchasers, in particular, who have moved in with portable mills to realize promptly on their investment will hasten to "cut out and get out" and their lands will go tax-delinquent.

Now it has been variously proposed that the sales be made in a manner to avoid these calamities and with conditions attached requiring cutting on a sustained yield basis. Even from the Department of the Interior there has come a proposal complete with drafted bill under which the Reservation lands selected to be sold to pay withdrawing members of the Tribe would be offered for sale to private purchasers subject to management restrictions. The department's proposal calls for payment by the private purchasers of the full realization value for the forest property with requirements that the property thus sold be operated on a sustained yield basis.

Secretary of the Interior, Fred A. Seaton, offers an explanation of what is meant by the term "realization value" in the letter with which he transmitted the proposed bill to the President of the Senate. "Realization value," Secretary Seaton said, "is the amount for which the lands could be sold on the open market prior to the termination date, without limitation on use, if as much as 70 percent of the forest were offered for sale. If 70 percent of the Indians elect to withdraw, that is the maximum amount they could expect to receive under the present law. The Indians cannot be required to take less."

Parenthetically, it should be noted here that in a hearing before a Senate sub-committee the Klamath region's largest timber owner and mill operator explained carefully why it could not buy Reservation timber at such a realization price and undertake a sustained yield operation. It could not afford, nor could any other private operator, to pay down the realization value of the timber and then hold such an investment over a long period of years.

What the administration's proposed bill apparently attempts, then, is to require private operators to purchase the timber units at prices which they, the operators, admittedly cannot pay if they are required to practice sustained yield management on the purchased property. Such a proposal therefore does not give the operators the opportunity to purchase the timber units suitable for sustained yield operation which, at least on the surface, is the real purpose of the bill.

On the other hand, if operators are able and willing to bid the appraised values for the property with sustained yield restrictions the Indian people will not be receiving as high a value for their interests as they would receive were the property sold without such restrictions. Under such circumstances, the courts, following the applicable rules relating to such a trust as exists here, would award the Indians a sizable judgment to compensate them for the lesser prices they receive because of the sustained yield restrictions. In short, sooner or later and in one way or another the United States will have to pay the withdrawing Indians the full retail (Retail value is described by the management specialists as the current average selling price of commercial sales times the total volume of timber, without any discount for the period of time required to harvest—Editor) value of their timber.

The answer, and the only sensible answer, is the outright and undisguised purchase of the Reservation by the United States at the appraised

(*Turn to page* 47)

RESOURCES FOR THE FUTURE

Resource Cupboard Not Bare or About to Be, Nolan Says: But Complacency Has No Place in Conservation, Shaw Adds

Dr. Nolan — His U. S. Geological Survey dates back to genesis in conservation

LIKE atomic scientist Edward Teller, Director Thomas B. Nolan, of the U. S. Geological Survey, believes that "ultimately the population of the earth will be limited not by any scarcity but rather by our ability to put up with each other."

The most optimistic of all speakers yet to appear on the Resources for the Future lecture series at Washington's Cosmos Club, Dr. Nolan disputed the views of Malthus who contended 150 years ago that the population of the earth would tend to increase faster than the food supply. Quoting Dr. Teller, Dr. Nolan said it is true that conditions are wretched in many countries, "but even where life is hard people are objecting not because they look back to a happier past but rather because they demand a better future—which they know can be realized. Human fertility is undoubtedly great, but so far human ingenuity has proved greater. . ."

The geologist (whose predecessors, John Wesley Powell and W J McGee, had a monumental impact on conservation in its early days) used the Teller quotation to sum up his thesis that science and technology have changed the nature and objectives of the conservation movement since the Governor's Conference of 1908. The impelling reason for that conference was "fear," Dr. Nolan stressed.

To a large extent, and with the best intentions in the world, many of the Governor's Conference participants were wrong, Dr. Nolan said. "Predictions that supplies of iron ore, fuel, timber, water power and even grain would become inadequate or be exhausted . . . . appear surprising to us today, when we consider proposals that have been made in recent years to provide subsidies of various kinds to domestic producers of these commodities because of existing oversupplies. The threatened exhaustion not only has not occurred, but for some commodities, we are seriously proposing research programs to develop new uses, in order that existing capacity for production can be utilized."

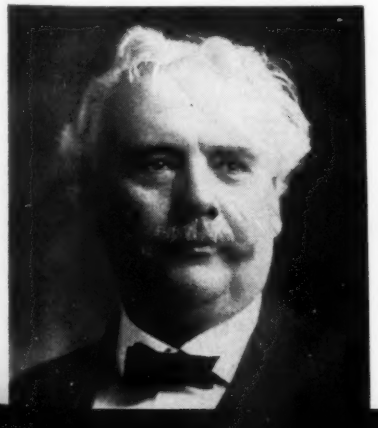
Dr. Nolan said, "I am calling attention to these predictions of 50 years ago not to ridicule the individuals who made them, but to make clear the basic assumptions upon which the initial concept of the conservation movement rested, and to bring out the extent of the change from it to the present-day one. We now characterize conservation objectives, insofar as natural resources are concerned as those promoting wise use of the resources; practices that will provide a sustained yield so far as the renewable resources are concerned, or those that will achieve orderly development without waste, in the case of non-renewable ones."

Increasingly too, conservation "has meant the utilization of resources in such a way as to preserve the social and esthetic values of the natural environment for succeeding generations," Dr. Nolan said. "Leopold has recently implied that this may ultimately become the objective of the movement, since increasing the adequacy of supply of such resources as water and minerals has become a matter of economics." (Leopold, Luna B., Water and the Conservation Movement, in press)

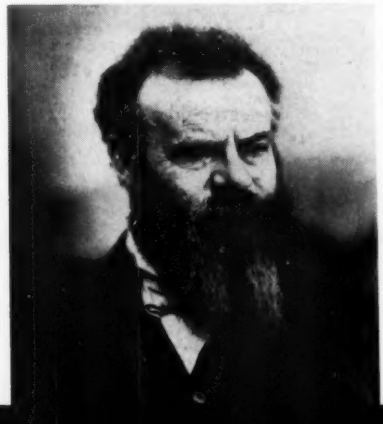
"In retrospect, this represents a major change in the meaning of conservation," Dr. Nolan continued, a change from the negative objective of restriction to use (Carnegie phrased it as 'economy,' that the next generation and the next may be saved from want) to the positive one of better utilization of our resources and our environment in order to make possible better and fuller lives of all the people."

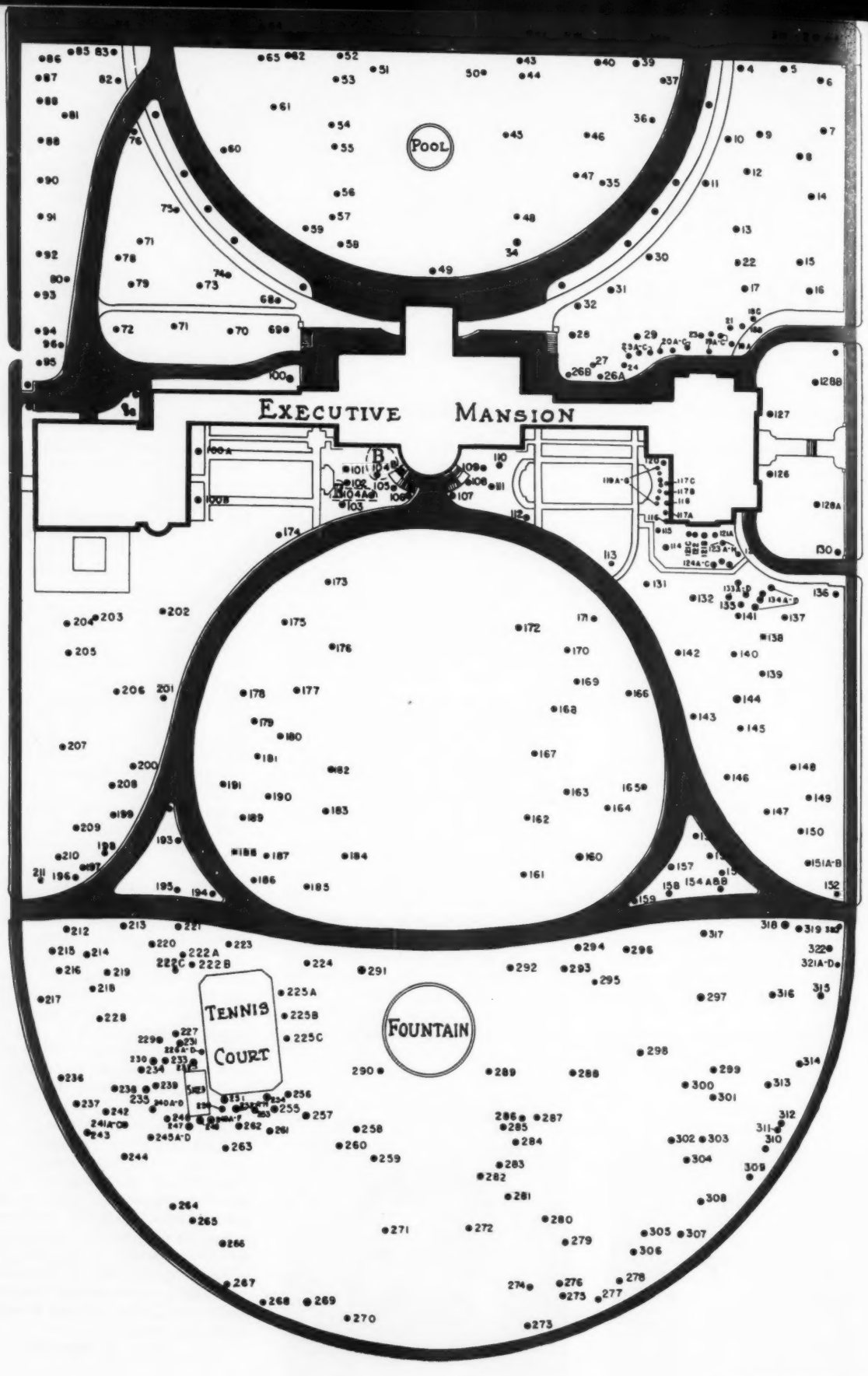
(*Turn to page* 48)

Survey's able W J McGee was one of Pinchot's top scientific advisers



Famed John Wesley Powell helped open up West, tamed Colorado River




POOL
EXECUTIVE MANSION
TENNIS COURT
FOUNTAIN

WHITE HOUSE TREES

No.	Species
1	White Ash
2, 3	American Plane
4	Scarlet Oak
5	European Beech
6	Ligustrum Lucidum, Azalea
7	White Ash
8	American Elm
9	European Linden
10 - 13	American Elm
14	White Ash
15	Tulip Tree
16	Azalea, Flowering Crab
17	American Plane
18A - C	Magnolia Soulangeana
19A - C	Dogwood
20A - C	Hawthorn
21	Fern-leaved Beech
22	White Oak
23	Fern-leaved Beech
24	Hawthorn
25A - C	Star Magnolia
26A, B	Dogwood
27	Azaleas
28, 29	Fern-leaved Beech
30 - 32	American Elm
33A - E	Taxus Cuspidata
34	American Elm
35	Red Oak
36	Horse Chestnut
37	Red Oak
38	American Elm
39	Red Maple
40	White Ash
41, 42	American Elm
43	Common Linden
44, 45	Big Leaf European Linden
46	Tulip Tree
47	European Turkey Oak
48	Big Leaf European Linden
49	Boxwood
50, 51	Magnolia Soulangeana
52 - 57	Big Leaf European Linden
58 - 60	American Elm
61	Horse Chestnut
62	White Ash
63	American Plane
64	American Elm
65	Star Magnolia
66	American Elm
67A - E	Taxus Cuspidata
68	European Elm
69 - 72	Fern-leaved Beech
73	Pin Oak
74 - 76	American Elm
77	Sugar Maple
78	Big-leaf Linden
79	Buckeye
80	American Elm
81	Mossy Cup Oak
82	European Linden
83	Scarlet Oak
84	American Elm
85	European Beech
86	Ligustrum Lucidum, Rhododendron
87 - 94	American Elm
95	Mimosa
96	(2) Ilex Crenata-Abelia
97A, B	Taxus Cuspidata
98	Azalea
99	Taxus Cuspidata
100	Osmanthus
100A, B	Azaleas
101 - 103	Magnolia Grandiflora
104A, B	Magnolia Grandiflora
105	Wistaria
106 - 107	Boxwood
108	Wistaria
109 - 111	Magnolia Grandiflora
112	English Holly
113	Red Oak
114, 115	English Holly, Ligustrum Lucidum
116	American Holly
117A - C	Abelia
118	Ilex Crenata
119A - G	Flowering Plum
120	American Holly
121A - C	Abelia
122	Boxwood
123A - H	American Holly
124A - C	American Holly
125 - 127	Boxwood
128A, B	Magnolia Grandiflora
129, 130	Ilex Crenata
131	Ligustrum Lucidum, Azalea
132	(12) Lilacs
133A - D	Hardy Oranges
134A - D	Magnolia Soulangeana
135	Rhododendrons
136	Crabapple, Firethorn
137 - 140	Mossy Cup Oak
141	European Turkey Oak
142	Horse Chestnut
143	White Ash
144	Daimyo Oak
145	Horse Chestnut
146	American Beech
147	Horse Chestnut
148	Tulip Poplar
149	Catalpa
150	Magnolia Grandiflora
151A, B	Flowering Crab
152	Azalea, Rhododendron, Boxwood
153	Aucuba
154A, B	Tree Peonies
155	Irish Yew
156	Crepe Myrtle
157	Persian Hornbean
158	Swamp White Oak
159	American Plane Tree
160	American Elm
161	Silver Cedar
162	Horse Chestnut
163, 164	Purple Beech
165	Horse Chestnut
166	Irish Yew
167	Horse Chestnut
168	Red Oak
169	Star Magnolia
170	Silver Leaved Linden
171	Yellow Buckeye
172	Red Oak
173	Norway Maple
174	Small Leaved Linden
175	Silver Leaved Linden
176	Red Oak
177	Japanese Tree Lilac
178	White Oak
179	Scarlet Oak
180	American Cork Tree
181	Red Maple
182	Magnolia Soulangeana
183	Horse Chestnut
184	Silver Cedar
185	Paulownia
186	Fern-leaved Beech
187	Yellow Wood
188	Persian Parrotia
189	Weir Silver Maple
190	European Beech
191	Purple Beech
192	Norway Maple
193	Silver Linden
194	Lebanon Cedar
195	Magnolia Grandiflora
196	Japanese Tree Lilac
197	Flowering Quince
198, 199	Silver Linden
200	Swamp White Oak
201	Weeping Linden
202	Deodar Cedar
203	Red Oak
204	Paulownia
205	Magnolia Grandiflora
206	Purple Beech
207	American Elm
208	Swamp White Oak
209	Camperdown Elm
210	Magnolia Grandiflora
211	Ligustrum Lucidum
212	Abelia-Philadelphus
	Fl. Locust
	Rhododendron, Ligustrum Lucidum
213, 214	American Elm
215, 216	White Ash
217	Mossy Cup Oak
218 - 220	American Elm
221	Sugar Maple
222A - C	American Holly
223, 224	American Elm
225A - C	Magnolia Soulangeana
226A - D	American Holly
227	Forsythia
228	Chestnut Oak
229	Washington Hawthorn
230	American Holly
231 - 233	Bald Cypress
234	Washington Hawthorn
235	Tulip Poplar
236	Norway Maple
237	Ash
238	Hop Tree
239	Washington Hawthorn
240A - D	Flowering Cherry
241A - C	Hemlock
242	American Holly
243	Abelia
244	Japanese Chestnut
245A - D	American Holly
246	Pin Oak
247	Flowering Cherry
248	American Holly
249A - F	Viburnum
250	Magnolia Soulangeana
251	American Boxwood
252A - H	Viburnum
253	Oriental Spruce
254	American Boxwood
255	Flowering Cherry
256	Red Bud
257	Flowering Cherry
258	Irish Yew
259	Magnolia Soulangeana
260	American Holly
261, 262	Oriental Spruce
263	Pin Oak
264, 265	Horse Chestnut
266	American Holly
267, 268	Horse Chestnut
269	European White Birch
270	English Yew
271, 272	Oriental Spruce
273	Canadian Hemlock
274	Irish Yew
275	Canadian Hemlock
276	American Holly
277	Ginkgo
278	Horse Chestnut
279	White Oak
280	Hicks Yew
281	Lily Magnolia
282, 283	Magnolia Soulageana
284	American Holly
285	Irish Yew
286	Magnolia
287	English Holly
288	Camperdown Elm
289, 290	Forsythia
291, 292	Japanese Maple
293	Scarlet Oak
294	Willow Oak
295	Laurel Oak
296	American Elm
297	Ginkgo Biloba
298	Tulip Tree
299 - 301	Bald Cypress
302 - 304	Mossy Cup Oak
305	Scholar Tree
306, 307	Horse Chestnut
308	Hedge Maple
309	Sugar Maple
310	Paulownia
311	Abelia
312	Red Maple
313	Scholar Tree
314	Japanese Chestnut
315	Gold Rain Tree
316, 317	American Elm
318	Rhododendrons
319	Silver Linden
320	Boxwood
321A - D	Abelia
322	Norway Maple

By

VIRGINIA BURGESS WARREN

IS he going to run . . . or isn't he? Those were the $64,000 questions in the spring of 1952, when politicians and newsmen tried in vain to learn President Truman's plans.

Yet they should have known that Truman had no intention of trying again for the top office in the land. He dropped an unmistakable clue to his plans—a clue that went completely unnoticed — when he said, "I've been kept so busy I didn't even know I had a back yard. Now I'm going to get it ready for the next tenant!"

And he meant it. From then until the following January, Truman showed more interest in the White House trees and shrubbery than ever before.

It was Harry Truman's idea, during this period, to move a magnolia tree from the west lawn to the east lawn, in order to balance the two Andrew Jackson magnolias on the west side. One day, shortly after this re-grouping had been carried out, the President and a friend stood looking out of a White House window. Suddenly Truman asked his companion for a twenty dollar bill. When the man handed him one, Truman glanced at it, grinned, and tossed it carelessly on a nearby table.

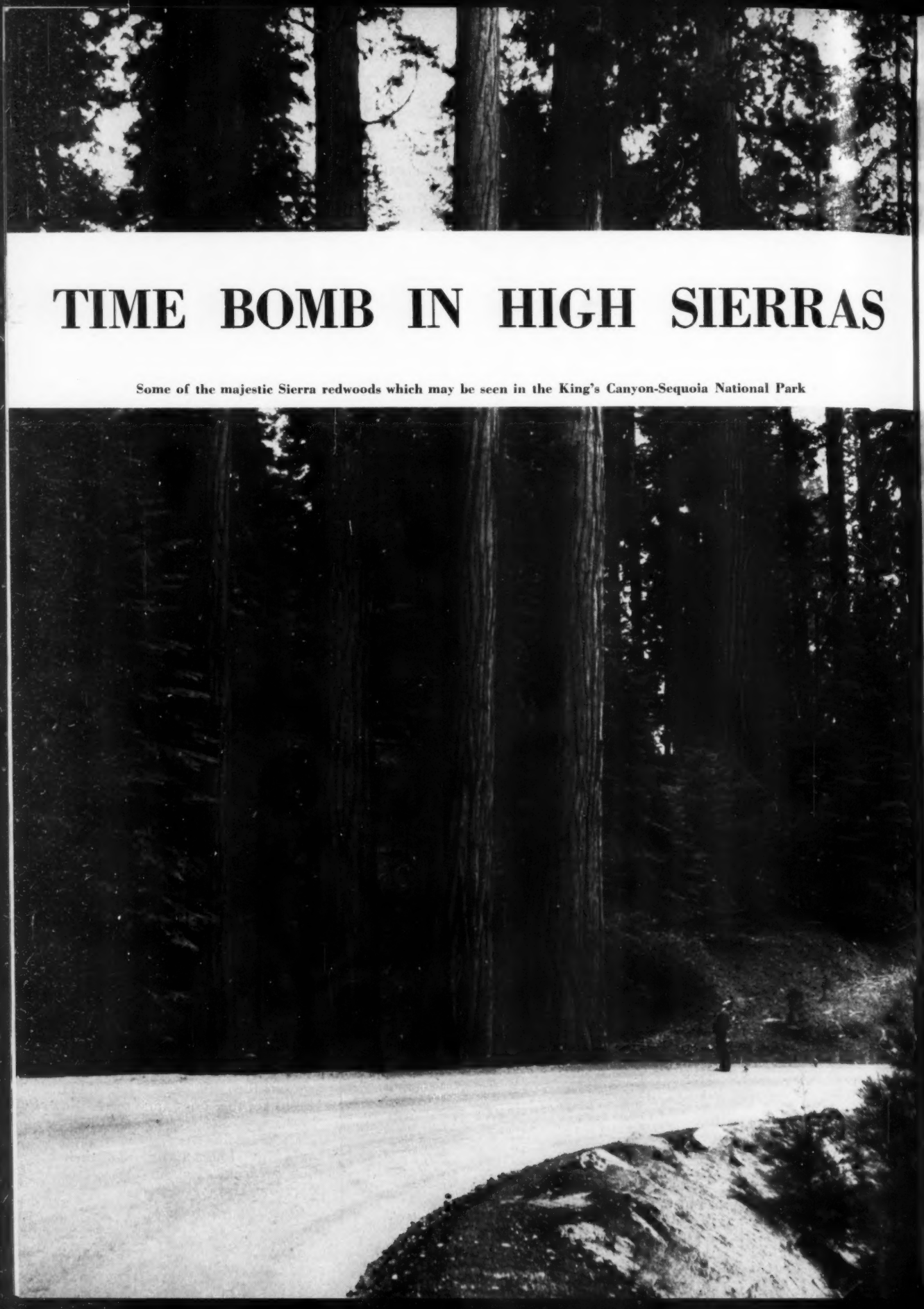
"It's counterfeit!" He announced gleefully. "See the trees in the engraving of the White House?" He pointed at the bill, then waved an arm at the window. "They don't look like the ones out there, do they?"

There are 345 trees on the 18 acres of White House Lawn, and their roots are sunk deep in the soil of American history.

(*Turn to page* 79)

TIME BOMB IN HIGH SIERRAS

Some of the majestic Sierra redwoods which may be seen in the King's Canyon-Sequoia National Park



High mountain country surrounds the McGee Burn and the present beetle epidemic in Tulare and Fresno Counties

By **ALVIN KLOTZ,**
District Manager,
American Forest Products Ind., Inc.

AN insect time bomb is clicking away anxious hours in the pine forests of Fresno and Tulare Counties, in the High Sierras of central California. California's worst pine beetle infestation in over a decade is slumbering.

Here is today's forest enemy No. 1. Insects and disease in the nation's forests wreak nearly nine times as much damage as does fire. How do we attack this rising foe?

Let us take a look at a battle that is being fought.

Perhaps the fastest council of war ever marshalled by American forestry was formed by the several forest agencies last mid-summer to plan commando tactics against California's worst pine beetle infestation in over a decade. Strategy developed was one of quick salvage logging.

Outcome of this continuing fight is still uncertain. But a study of salvage-logging tactics could serve as a prototype for similar emergencies elsewhere. Clearly visible at this stage in the war is the lesson that business-as-usual cannot win. Standard procedures in harvesting timber were thrown to the winds by government and private timberland owners in the face of the crisis. Long-planned schedules of forest industry logging crews went the same way.

Knox Marshall, district forest engineer for Western Pine Assn., was one of the first men to become fully alarmed about the epidemic proportions of the beetle infestation, although the presence of beetles had been known for some time. Officials of Kings Canyon-Sequoia National Park knew they had something. A direct-control fight was already underway led by Maurice Thede, regional forester for the U. S. National Park Service.

But it was only after Pat Ivory of Ivory Pine Lumber Co. of Dinuba began worrying about trees dying on his Tree Farm and called in Marshall for consultation that things began to hum in the entomology pentagon. Marshall and Edward Patrick Ivory, canny Irish forester and lumberman with a diverse background of research, advertising and sales, stalking through the Ivory Tree Farm, had sighted the enemy.

Marshall was the industry Tree Farm inspector who had made the primary recommendation that Ivory's forest management program on his private timberland be recognized by the industry-directed Tree Farm program and given certification status. It was natural for Ivory to call on Marshall.

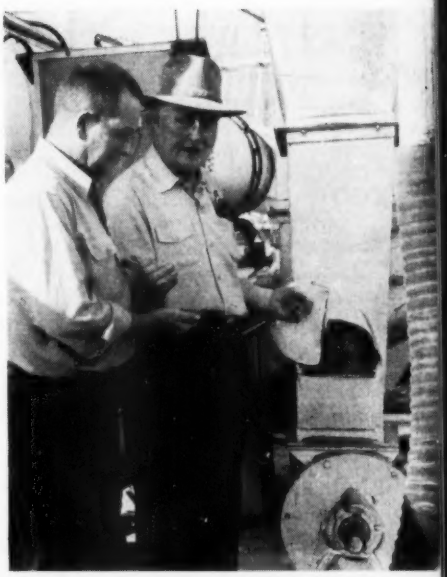
"I became scared after taking a quick look around, and immediately called Doc Hall," says Marshall.

"He reacted the way I did."

Dr. Ralph Hall of the Division of Insect Research of the California Forest and Range Experiment Station made a quick survey verifying the epidemic character of the infestation—western pine beetles in the ponderosa pine and mountain pine beetles in sugar pine; all in green timber. Trees were fading and dying as if in a crowning forest fire.

All property owners and managers in the area were immediately notified. Ivory began felling and spraying fading trees on his Tree Farm, hauling them to his nearby manufacturing plant as quickly as possible.

The U.S. Forest Service, with helicopter and ground crews, in an emergency program, surveyed the scope of the epidemic in about a week. But their figures became obsolete as fast as they were tabulated. Today's measurement of the epidemic's scope



Knox Marshall, left, and Pat Ivory at sawdust drier of Dinuba mill, vital link in mill's remarkable utilization record

was not tomorrow's. This was hot warfare.

A quick preliminary meeting was held in Berkeley to hear intelligence reports. At this meeting were: Maurice Thede, USNPS; Knox Marshall, Western Pine Assn.; Dr. Ralph Hall and Charles Eaton of the Division of Insect Research, California Forest and Range Experiment Station; Tobe Arvola and Earl Sechrist of the California Division of Forestry; William Schofield, California Forest Protective Assn.; T. H. Harris and James Averill of the Regional Office, U.S. Forest Service.

A full-scale council of war was then called by Forest Supervisor Eldon Ball with strong support for an emergency timber-saving program from

(*Turn to page* 50)

ASSOCIATIONS

IN my solitary rambles over these hills, up this valley and its little tributaries, I have observed the associations of certain plants, flowers, and trees to each other. Although many are entirely different species, and each will always remain individually its own (what it was in the beginning), they go through their entire existence associating with each other. All of this is partially due to the economics of the soil. These plants, shrubs, flowers, and trees like the same kind of soil, and, therefore, where one finds one he finds the other.

This association is true among people too. The few people who will read this have heard of "good" and "poor" neighborhoods. Also, the neighborhoods where people live can be divided and subdivided, and much of this depends upon economic strata which roughly correspond to the sustenance found in the soil for plant life. For instance, in our large, middle-sized, and small cities are "the jungles" and "the skid rows." In them are "little Italies" and "little Chicagoes." And somewhere on a height near a large city is usually the choice location for the "best neighborhood." It is the "expensive part of the city." Then, there is the "high-class neighborhood," "middle-class neighborhood," "average neighborhood," "poor neighborhood," and "very poor neighborhood." There are the slums, the jungles, and the skid rows. Most of these differences are made by economics. People strive in our cities to make enough to move to better neighborhoods and climb up the ladder of financial success.

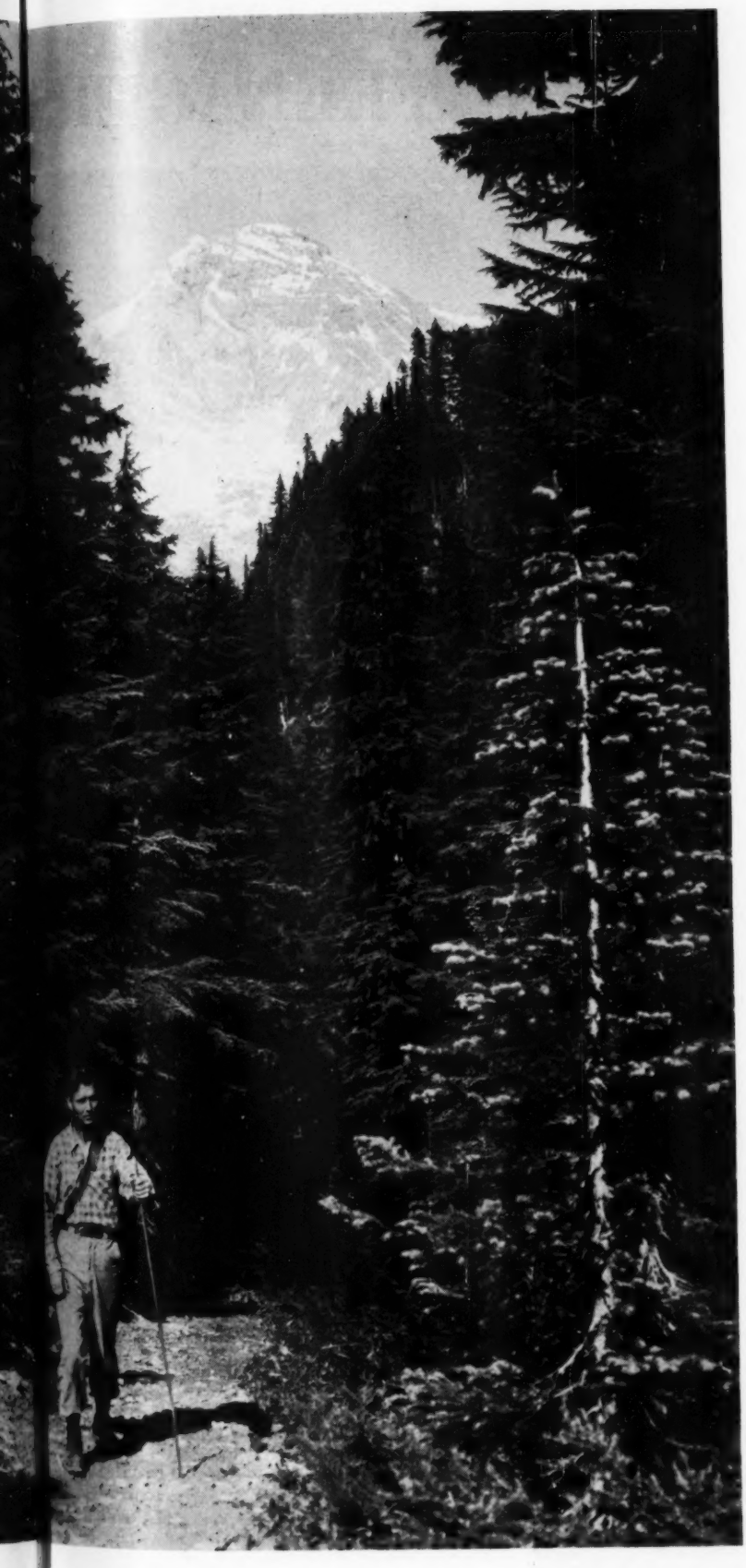
All wealth depends on our sustenance, whether we are financially able to have the best or not. And where does all wealth come from? It comes directly or indirectly from the soil. Make no mistake about this. Even the wealth of countries and industries of peoples depend upon the value of their soil and the minerals in it. For instance, in the northeast corner of this county there is a steel mill, and other industries. On a hilltop overlooking the mill and industries is a small neighborhood with the finest homes in the country. The homes range upward to sixty or seventy thousand in value. Directly across the county, in the northwest corner, are huts and hovels on the ridges, land far from a hard road, where people have lived for over a century without floors in their houses. They dig a living from a fruitless soil. This contrast is about thirty miles apart, in the same county, with people of the same names and ancestral background.

Now, in my observation, I have learned that the yellow pine and greenbriers grow in the same neighborhoods. Let's call it just an average neighborhood. Neither ask for, nor receive, the better soil. But go anywhere and you find yellow pines growing in a certain kind of soil. Greenbriers will be under or near them. However, you will always find exceptions among them, as you will among people who get into the wrong neighborhood and "live with the rich," if one is poor; or "live with the poor," if one is wealthy.

Go to any hilltop along bony ridges among the sandstones where the giant oaks grow. You will often find huckleberries. And among huckleberries you'll find wild gooseberries, and also (and I do not know why) copperheads. But the mighty oak, king of our forest trees, and the little huckleberry have a close affinity. They, perhaps, like the same kind of soil. They, perhaps, draw the same sustenance from it for their growth. The tough-fibered oak and the soft, sweet huckleberry are neighbors.

Now if you want to see something that goes well together, walk over our old fields where the steep slopes have been formed, and are deserted now, and you will find groves of the sassafras. It is said that sassafras grows in poor soil. I agree with this. But among the sassafras you will find clusters of saw briers which like the same variety of soil.

And very close to the sassafras and



By JESS STUART

saw brier, except in a little poorer soil, you will find the persimmon. And among the persimmons, as if they are watchdogs for the master, you will find clumps of sedgegrass (broom sedge) and scrawny pine which delights in remaining small. These three are always found in close association.

Down in a fertile ravine the pawpaws, buckeyes, and poplars grow. They are softwood trees and they grow rapidly, especially the poplar, which grows to a great height and enormous size. But these trees require fertile ground. Often when an old field is left deserted, and leaves from the sassafras, greenbrier, saw brier, persimmon, and all other forms of vegetation have refertilized this field over a number of years until there is a small topsoil, the poplars will start growing here. They will grow wherever there is fertility, regardless of their associations with other vegetation. Nutrition is what the poplar is after.

In the very loamy, fertile coves, you will find the yellow and black locust. This wood is denser, harder, and heavier than any tree that grows here. A piece of seasoned yellow locust is almost as heavy as steel. If placed in the ground for fence posts, it lasts a lifetime. Often locust posts have been known to last a century. Gateposts have been removed in this valley after a century of use. Blackberry vines will grow in other soil but not to such great size. In this soil they produce prolific crops of wild blackberries. And in close association with locusts, poplars and pawpaws are the wild grapevines. They live in the select neighborhoods. They are after wealth from the soil. And they give wealth back to the soil in their prolific leaf growth. In other words, they are good business vegetation on the earth. They treat the rind of earth, which supports all life, very kindly.

A jungle or a skid row tree, which grows in the poorest of the soil, is

(*Continued on page* 76)

Like cities and people, growing things in the woods are divided into neighborhoods

Fallen logs and dense underbrush make planting hard work for children helping to rehabilitate area

Tillamook's Wilson River Section reveals the magnitude of destruction which swept through forests

By JOSEPH W. WILEY

TEENAGERS S

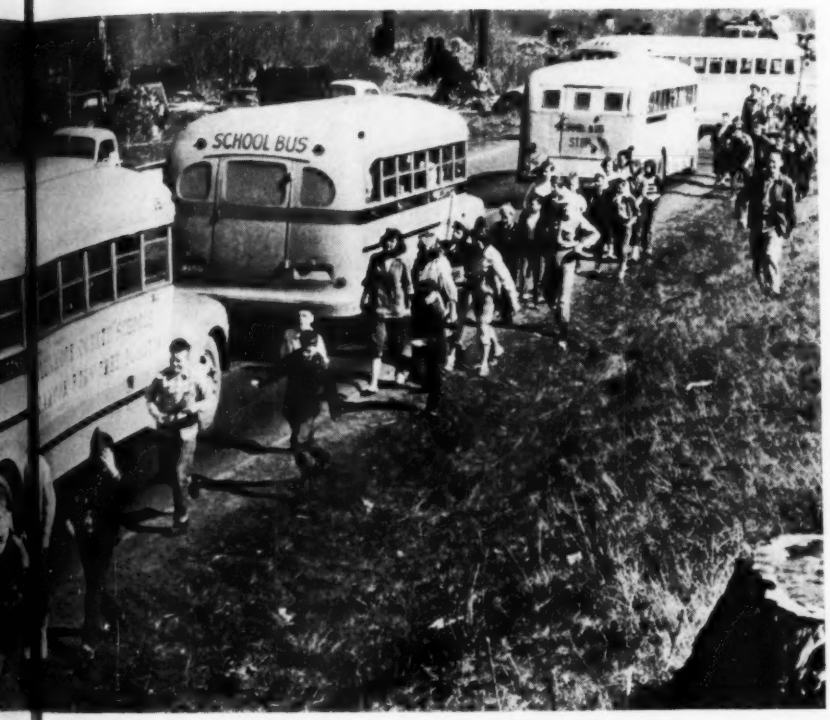
Photos courtesy of the *Oregon Journal*

IN the past seven years Portland, Oregon, teenagers have been making conservation history. These young Oregonians have been responsible for the planting of nearly 500,000 trees in one of the world's most fire ravaged areas, the Tillamook Burn.

This story began on a hot, dry day in August, 1933. The ranger atop Saddle Mountain Lookout glanced nervously below. Mighty Douglas-firs, most of them over four hundred years old, whipped about in strong east winds. This was the finest stand of virgin timber in Oregon. Logging operations were shut down because of the heat and low humidity, but the forester wondered if all outfits had gotten the word. He hoped no lumberjack would dare risk dragging logs through the dry brushwood.

But an unthinking crew had decided to get just one more that day. As the ranger looked northward, he was startled at what he saw. A shimmering haze appeared to dance in front of the green trees. Suddenly,

S SALVAGE A FOREST



Some Tillamook County school buses unload the eager young workers for a planting session

it erupted into a large column of whitish gray smoke billowing skyward. Hastily he located the spot. The report went out.

"Fire at Gales Creek!"

Within minutes other lookouts called in the alarm. But human beings couldn't stop this one.

Stumbling, exhausted men confined the blaze to 40,000 acres those first ten days. They were holding the lines. But on August 24 the fire broke loose and became one of the worst forest disasters in American history.

The humidity dropped dangerously low; temperatures soared, and the hundreds of smoldering pockets leaped into a frenzy with the help of another dry east wind. Flames, racing at terrific speed, roared overhead from tremendous hurricane force winds set up by the blaze.

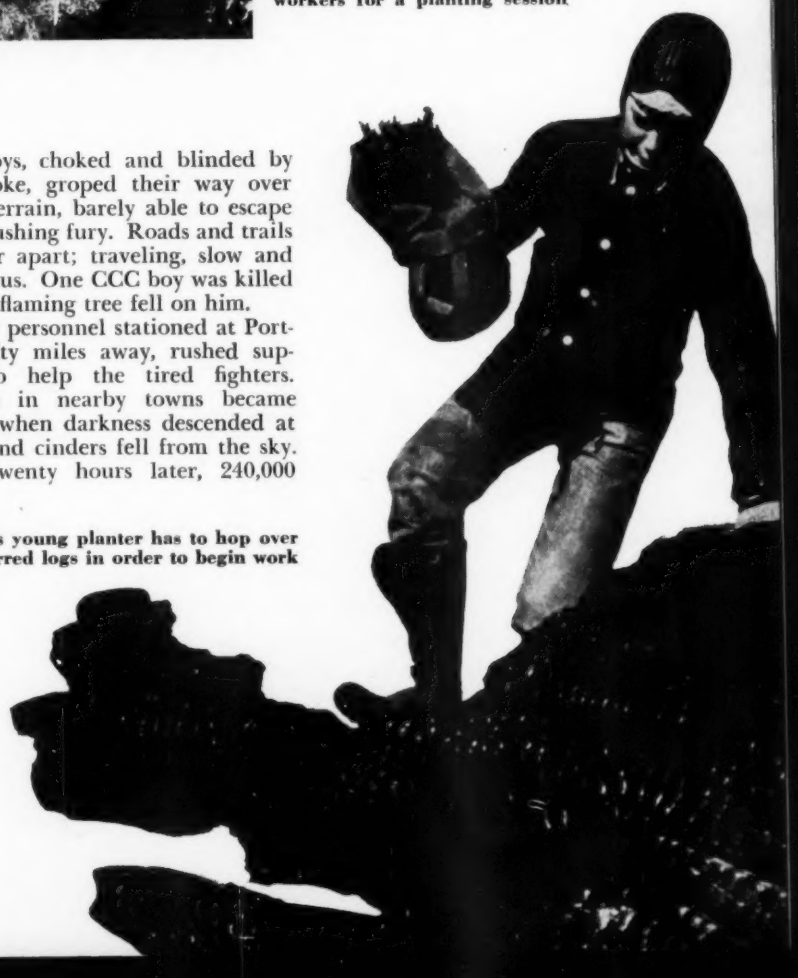
Men were helpless in combating the sheets of flame which, aided by the howling winds, soared through tree tops. The blaze sprang out of control. Weary, grimy loggers and CCC boys, choked and blinded by the smoke, groped their way over rough terrain, barely able to escape the onrushing fury. Roads and trails were far apart; traveling, slow and dangerous. One CCC boy was killed when a flaming tree fell on him.

Army personnel stationed at Portland fifty miles away, rushed supplies to help the tired fighters. Citizens in nearby towns became frantic when darkness descended at noon, and cinders fell from the sky. Only twenty hours later, 240,000 acres were left scorched and blackened.

Finding their way to the sea, ashes piled up along beaches for over thirty miles, and thousands of logs were tossed up by the incoming tides. An area over four hundred square miles, the size of Los Angeles, California, became charred stumps; a grim reminder of a magnificent forest that had taken four hundred years to create, and only ten days to destroy.

According to Sinclair A. Wilson, senior forest economist of the experiment station in Portland, "Nearly thirteen billion board feet of timber worth over $100 million was burned. This lumber," he added, "would have kept Oregon's sawmills running for twenty years." Incidentally this thirteen billion board feet of lumber

(*Turn to page* 75)



This young planter has to hop over charred logs in order to begin work

25 MILLION MORE

No More Land

...muddling through" will never produce proper ...d management and uses to support Cali... ...ture's exploding population predicted to reach ... million according to this study by Dr. Dana ... ...essentially the final chapter in AFA's ... California Lands-Over-Use and ... ...cast" to be published this spring

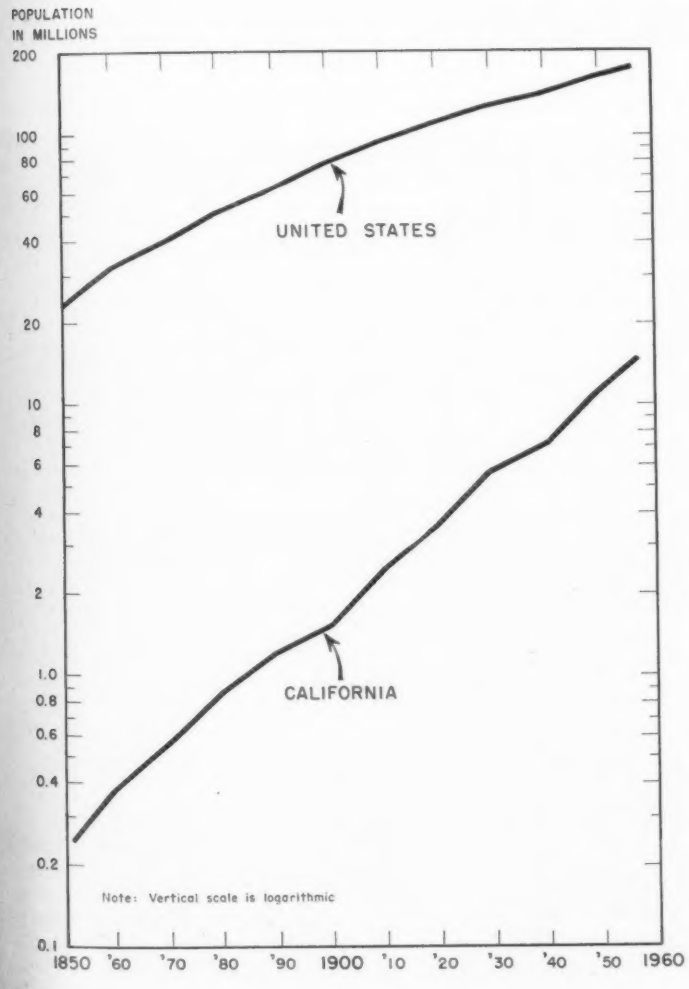
IN 1954 The American Forestry Association adopted "A Program for American Forestry," the first plank in which recommended concurrent national and state-by-state studies of forest ownership patterns and problems. This dual approach recognizes that every state has its own patterns and problems which must be considered not only by themselves but as part of the national picture. At the request of several responsible officials in the state, and with the financial support of the Nutrilite Foundation, the association during the past year made an exploratory study of the situation in California. The purpose was not to solve but to identify the major problems connected with wildland ownership as a basis for further, more intensive studies by the state.

The need to analyze the present situation, and to take prompt steps for its improvement, is urgent, since California's exploding population is putting an increasingly severe strain on its rich but limited natural resources. How these resources are managed will determine what water, wood, forage, wildlife, minerals, and opportunities for recreation will be available to meet the needs and desires of its own and other citizens. That management in turn will be governed largely by the pattern of land ownership, by the objectives and abilities of the owners, and by the guidance, cooperation, and control furnished by state and federal agencies.

RE PEOPLE —

By SAMUEL T. DANA

Dean Emeritus
School of Natural Resources,
University of Michigan



Pattern of Land Ownership

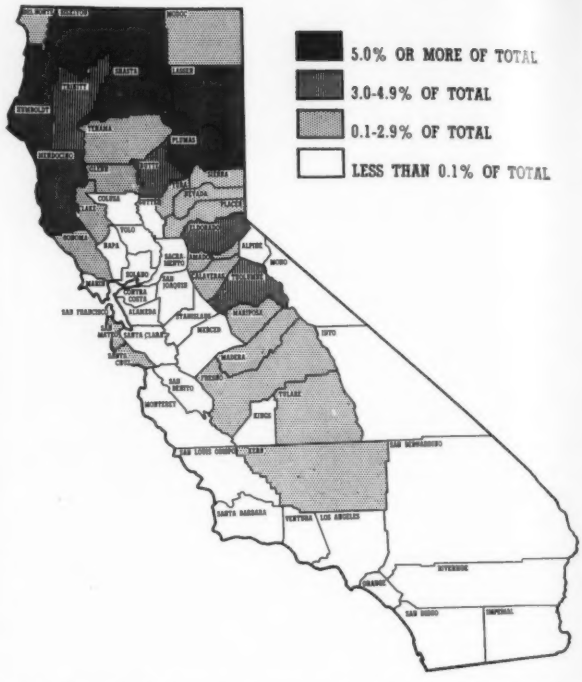
A first step was to determine the present pattern of land ownership. Within a century that pattern has changed from one of relative simplicity to one of great complexity. When California became a state in 1850, title to its entire land area rested in the United States with the exception of some 8,850,000 acres in Spanish and Mexican grants that were later confirmed by the federal government. Today the nation owns some 47 percent of the state's land area; the state, counties, and other local governmental units own some 3 percent; and the remaining 50 percent is in private ownership.

The great reduction in federal ownership was effected by grants to the state for the construction of permanent improvements, for the reclamation of swamp and overflowed lands, for the promotion of education, and for state parks; by grants to corporations to aid in railroad construction; and by sales and grants to individuals, primarily to promote settlement and to encourage mining. No land was marked for permanent retention until 1890, when Congress created the Yosemite, General Grant, and Sequoia National Parks, and 1892, when President Harrison established the San Gabriel Forest Reserve. These actions marked the beginning of a reversal of the federal policy from one of extensive land disposal to one of reservation, and later of acquisition, of land for national parks, national forests, wildlife refuges, reclamation and flood-control works, grazing districts, oil reserves, and military installations. The new policy reached its climax in 1934 and 1935, when President Franklin D. Roosevelt withdrew all of the remaining public domain from entry except under the mining laws—unless and until it should be classified and opened for entry by the Secretary of the Interior.

The state followed the example of the federal government in selling as rapidly as possible the lands granted to it by the latter. By the turn of the century it had succeeded in disposing of most of its holdings except for a fairly sizable area of scattered and largely unsurveyed school sections. Then came a shift in policy, as a result of which the state has acquired several hundred thousand acres for parks, wildlife refuges and management areas, and state forests.

With the exception of a small area of military reservations and of administrative sites, the area now in federal and state ownership consists

Shaded areas indicate the counties in which the value of the forest products sold from farms in 1954 exceeded $100,000



Lumber production is concentrated in upper half of state according to classification of counties by lumber production

almost entirely of "wildlands," (This term is used for convenience in referring collectively to non-urban lands not used for residences, roads, or cultivated crops, with no implication as to their value or intensity of management.) while the area in private ownership is much more diverse in character. The Spanish and Mexican grants were chiefly valuable for farms and ranches, with relatively small areas of forest land; but they also included sites that were later to become important metropolitan centers, such as San Francisco, Sacramento, Monterey, Santa Barbara, Los Angeles, and San Diego. Grants and sales by the federal and state governments transferred to private ownership most of the remaining area suitable for cultivation and for town sites, together with a considerable area of forest, range, and mineral land.

Farms and ranches now comprise about three-fourths of the area in private ownership. Only about 30 percent of the land in farms and ranches is used for the production of harvested crops (including fallow), while about two-thirds is pastured (including woodland pasture). Outside of farms and ranches, somewhat more than half of the area in private ownership consists of commercial forest land. The remainder is made up of urban, suburban, and other residential sites, and of noncommercial forest, range, and mineral lands.

California's wildlands, with which this pilot study was chiefly concerned, are thus owned and managed by numerous federal and state agencies in several different departments and by tens of thousands of individuals and corporations. (There are well over 10,000 private owners of commercial forest land alone.) These lands vary greatly in character and occur in parcels of all sizes, with the area under a single ownership sometimes well concentrated but often widely scattered. The intermingling of holdings under different ownerships (both private and public) and the diversity of policies followed by different owners (both private and public) complicate administration and management for all classes of owners. A striking, but not unique, example of this situation is the checkerboard pattern of alternate sections in private and public ownership resulting from the railroad land grants.

Objectives and Problems

Theory and Practice. Agreement is general (1) that land ownership and management should be such as will most effectively promote the "public interest," and (2) that this goal can be approached either through private ownership, where financial profit is properly a dominant motive, or through public ownership, where other forms of "profit" may be more important. Opinions vary widely, however, as to how to define, how to measure, and how to attain the "public interest." Theory, in other words, is not easy to put into practice.

The interest of individuals, of local communities, of the state, and of the nation are not always identical. What seems best for the present may not be best for the future. When conflicts exist, where does the "public interest" lie? What patterns and programs of ownership and management will contribute most effectively to its realization? What changes in the present setup do the answers to such questions as these suggest?

Two tools are now being widely acclaimed as providing the key to wildland management in the "public interest." If all owners would only practice multiple use and sustained yield, many believe that utopia would be in sight. Widespread and intelligent application of these practices would certainly enhance the

hope that land can be made to yield —and to yield permanently—all the goods and services that we desire; but their successful use is unfortunately beset with many difficulties.

A first prerequisite for the really effective employment of multiple use on a statewide or national basis is that we know just what we want to produce, and in what proportions. Next, there must be some division of responsibility for achieving this production among different classes of owners. For example, should private owners concentrate on the production of tangible goods such as wood and forage, and public owners on the production of less tangible services such as protection of the water supply, control of erosion, and provision of recreational areas; or should all owners place equal weight on the production of all kinds of goods and services; or is some middle ground between these two extremes desirable?

Thirdly, the techniques of intensive multiple-use management still remain to be perfected. Many uses are competitive, and all land has a limit to the kind and amount of products and services it can yield. Maximum yields of wood, forage, recreation, and other products cannot be obtained from the same area, whether it is one acre or a hundred thousand acres in size; and the technical problem of producing whatever combination of goods and services may be sought is a difficult one.

Equally difficult is a valid answer to the question usually asked to test the desirability of any activity: "Does it pay? — are returns greater than costs?" In the case of multiple use, both returns and costs vary not only in amount but in kind. They may be tangible or intangible, personal or social, present or future. Some can be measured in dollars and cents, others cannot.

In the absence of any adequate measuring stick for comparing the various costs and returns associated with different forms of land management, the decision as to which to adopt must be based on judgment, after careful consideration of all the factors involved. Current decisions will be made by owners, managers, administrators, and legislators, but they will be influenced (and in the

California is famous for huge redwoods

Yosemite National Park entertains over one million people yearly. Roads into valley have many outlooks that provide fine views

long run controlled) by the voters, as is the case with education and other activities whose profitability cannot be gauged wholly in monetary terms. Surveys to determine public opinion with respect to the relative values at stake are therefore needed both to guide those responsible for the formulation and execution of land-management policies, and to steer educational efforts along lines that will result in a better informed citizenry with heightened ability to make sound judgments.

Sustained yield denotes a continuing equality between production and use. Wood, forage, and wildlife will be harvested in the same amounts year after year, or period after period; opportunities for recreation will be maintained in perpetuity. This concept is sound but does not go far enough. Production needs not only to be sustained, but sustained at a high level of quantity and quality. The increasing pressures on natural resources being exerted by a swelling population and an expanding economy make it imperative to utilize more and more effectively the productive capacity of the land.

This task, which is really one aspect of multiple use, raises problems of technique in acute form, since the difficulties of management increase rapidly as the level of production is stepped up. It also raises the problem of determining what intensity of management can be practiced without passing the point of diminishing returns. Much research in these fields will be necessary before sustained yield can play the role of which it is capable in assuring not only continuing but adequate supplies.

In brief, there is need to clarify the concept of "public interest" as a major objective of land ownership and management, and to decide what measures are most likely to promote its attainment. Where do we want to go, and how can we get there? Among the subjects that must be considered in finding an answer are appraisal of the relative weights that should be attached to personal, local, state, and national points of view; identification, and so far as practicable measurement, of costs and returns of all kinds (tangible and intangible, personal and social, present and future); the potentialities and limitations of multiple use and sustained yield, including the techniques involved in their successful application; and the efficiency of different classes of owners in furthering progress toward the desired goal.

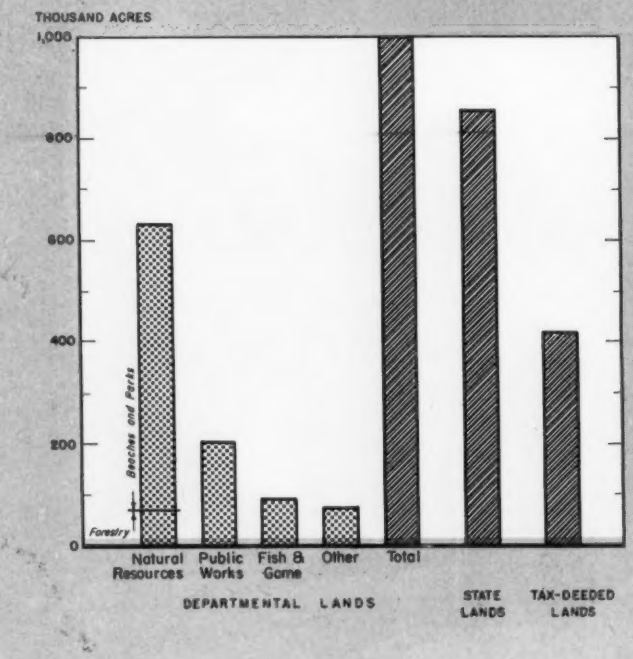
Clear thinking and intensive research along these lines will progressively indicate what changes in land ownership and in land management

A hunter about to try his luck on t Sonor

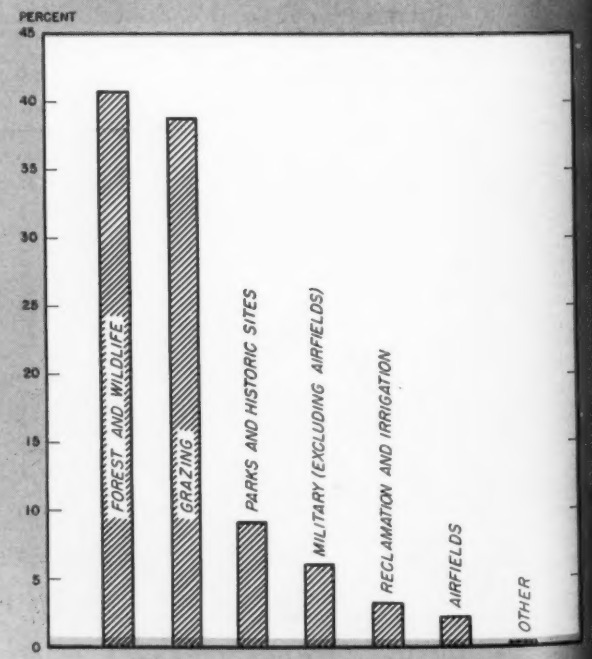
policies and practices appear to be desirable, and will facilitate their application. "Hasten slowly" is often good advice, and drastic changes would be unwise unless and until thorough and impartial analysis shows that they promise definite improvement. There are, however, many important adjustments that could be made on the basis of existing knowledge or relatively short-time studies.

Federal Lands. Of the total area

Departmental lands, state lands, tax-deeded lands, 1954



Various uses of federal land holdings in California, 1956



Sonora Pass, Stanislaus National Forest

in California under the jurisdiction of the federal government (including Indian lands), nearly 49 percent is administered by the Department of the Interior, about 42 percent by the Department of Agriculture, nearly 9 percent by the Department of Defense, and less than 0.5 percent by other agencies. Federal holdings occur in every county in the state, but the great bulk of the area is in the desert and mountainous portions. Four-fifths of the area is used for the production of wood, domestic livestock, and wildlife.

Department of the Interior. Nearly three-fourths of the area administered by the Department of the Interior consists of unreserved public domain. Since 1935 these lands have been withdrawn from all forms of entry except mineral entry. They may, however, be opened to entry under existing legislation by the Secretary of the Interior if classification shows them to be suitable for the purpose desired by the applicant. Nearly a fourth of the area is in grazing districts, and much of the remainder is used for the production of forage and wood.

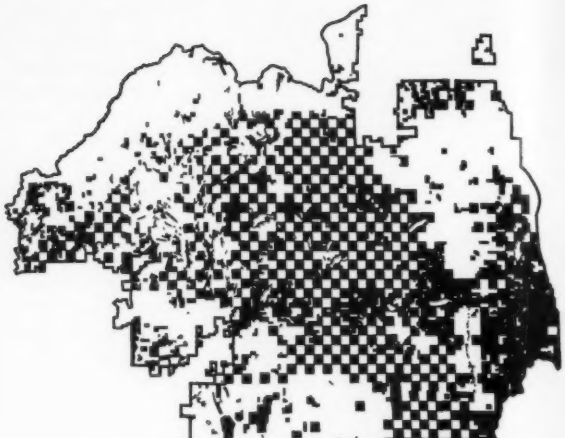
Classification of the unreserved public domain, which has now been in a state of "temporary" withdrawal for nearly a quarter of a century, should be speeded up to determine what lands can properly be opened to entry and what lands should be permanently retained. Decision on this point is particularly important with respect to the grazing districts —the "reserves that are not reserves" —and the still larger area that is primarily of value for grazing. A decision should also be reached as to the future of the 324,000 acres of commercial forest land, which are widely scattered, subject to frequent trespass, and difficult of administration. Should they be sold to private owners, added to adjacent national forests, retained and blocked up by exchange and purchase for permanent administration as a new type of reserve, or handled by some combination of these methods?

Careful scrutiny of the Small Tract Act of 1938 and its administration is very much in order. Many people, including the board of supervisors and the planning commission of San Bernardino County, where four-fifths of the entries in California have been located, feel that it has too often created rural slums, led to undesirable speculation, and greatly complicated life for the local planning and administrative bodies. Prompt action is needed to determine what changes in the law or in its administration, or in both, should be made before the situation gets any further out of hand.

The most important problems connected with national parks and monuments have to do with their adequacy and management. To what extent are either minor or major adjustments necessary to achieve the objectives for which these reserves exist? This question bears most directly on the relationship between national parks, national monuments, and national forests, which are often adjacent and whose physical and biological features commonly

California is famous for its recreational opportunities. In summer, shores of Lake Tahoe are thronged with people from city areas

Recreation is an increasingly important form of land use, but its relative weight in multiple use programs is hard to determine



Checkerboard pattern of federal and private holdings is revealed by map (1955) of part of the Tahoe National Forest

bear a striking resemblance to each other. It also raises the broader question as to the wisdom of establishing numerous types of reserves by legislative action, as compared with the handling of all federal lands under a policy of multiple use which would devote every area to the purpose that would contribute most to the "public interest."

The swelling flood of visitors is making it increasingly difficult to achieve the ideal stated by Secretary of the Interior Franklin K. Lane in 1918 that "the national parks should be maintained in absolutely unimpaired form." Continued study is needed to devise means of approaching this objective and at the same time making the parks available for the enjoyment of the mounting millions of people who wish to visit them. Consideration of the formal establishment of "wilderness areas" within the parks deserves consideration in this connection.

Reclamation projects (and flood-control and navigation projects under the control of the Army Corps of Engineers) involve the problems of locating reservoirs so as to interfere as little as practicable with timber production and recreation, particularly in wilderness areas, and of providing adequate opportunities for recreation in the immediate vicinity of the reservoirs. The present policy of delegating administration of recreational activities at reservoirs to local, state, or other federal agencies seems to be working out well, but careful consideration should be given to the desirability of liberalizing the current policy of land acquisition so as to permit the acquisition of lands adjacent to reservoirs for the specific purpose of making them available for recreational purposes.

Federal migratory-bird refuges are located chiefly on reclamation projects. They furnish an excellent example of multiple use and of cooperation between two federal agencies.

The main problems connected with the management of Indian lands arise from the prospect that Congress may carry out its announced intention of terminating federal supervision over them. Both the human and natural-resource problems that will have to be faced in such an eventuality are receiving careful study by the Senate Interim Committee on California Indian Affairs.

Department of Agriculture. National forests comprise practically the entire area in California under the jurisdiction of the Department of Agriculture. Most of them were created hastily and without adequate field examination during Theodore Roosevelt's administration. Since then, both exterior and interior boundaries have been subject to continuing adjustments, which have included extensive eliminations and substantial additions by exchange and by purchase. Studies should be continued, in cooperation with other agencies and owners, to determine what further eliminations, additions, or exchanges will develop a more logical pattern of ownership and facilitate administration and management by both public and private owners.

Enlargement of the national forests by the exchange of timber for land ("stumpage for stumps") has been subject to vigorous criticism and has been virtually stopped since 1953. Acquisition by purchase has not only ceased, but in 1957 the Southern Redwood Purchase Unit was abolished, and the Northern Redwood Purchase Unit was greatly reduced in size. On the other hand, there have been no large recent eliminations. The tendency has thus been to maintain the *status quo,* with relatively minor adjustments by the exchange of land for land and by the modification of exterior boundaries.

Question may well be raised as to whether this is a desirable situation. Is it true that substantial additions to or subtractions from the area now in federal ownership would be unwise — both in general and for national forests in particular? The answer of course depends on whether they would be in the "public interest." This is a matter on which opinions will always differ, but on which agreement will become increasingly possible as research permits more accurate evaluation of the many factors involved. The point is that the end is more important than the means. There is nothing intrinsically objectionable about effecting changes by Congressional enactment, by Presidential proclamation, by exchange (either of land for land or of timber for land), or by purchase and sale, provided the objective is sound.

Drastic changes in national forest boundaries, in either direction, would be unwise until they can be more clearly justified than is now the case. There is, however, need for more rapid progress in effecting relatively minor but nevertheless important adjustments than is now being made. For example, little if any question exists as to the desirability of blocking up holdings in areas of intermingled ownerships, particularly where checkerboarding exists, or of eliminating areas that make no substantial contribution to the purposes for which national forests are established and administered. There seems to be general agreement that legislation should be enacted to authorize the sale of town sites within national forests, and of isolated and projecting strips of national forest land. Should such legislation include more general authority to sell, and perhaps to buy, land within national forests? Does the ability to make exchanges go far enough in permitting desirable adjustments? Do public agencies lack the ability or the reliability to be permitted to engage in transactions which are a matter of course in private enterprise?

A thorny problem of national forest administration is involved in the establishment and management of wilderness areas. How much is enough, from the national as well as the state point of view? What are the minimum requirements in the way of protection from fire, insects, and disease, the provision of campgrounds and sanitary facilities, the maintenance of forage for pack animals, and protection from overuse? While these questions are being debated, as they doubtless will be for a long while, action should be taken to acquire private properties within wilderness areas, to prohibit mining operations not needed to meet a national emergency, and to permit only essential water developments.

Other problems in the recreational field have to do with the relationship between national forests, national parks, and state parks. It involves the difficult question as to the relative weight that should be placed on recreation as an increasingly important form of land use. A recent statement of Forest Service policy will help to clarify the conditions under which it will make national forest land available for administration by the State Division of Beaches and Parks under special-use permit.

The perennial problem of what contributions tax-exempt federal lands should make to state and local governments assumes particular importance in the case of the national forests, from which come 60 percent of all federal contributions in lieu of taxes. Most of the remaining 40 percent comes from mineral sales and leases. In addition to the contribution of 25 percent of the gross receipts from national forests to coun-

Spanish and Mexican land grants confirmed by U. S.

Courtesy of University of California Press

Emerald Bay, on Lake Tahoe, is considered a beauty spot of the world. Pine-clad mountains which ascend to the rugged Desolation Valley ring the bay

ties for school and road purposes, the federal government makes much larger expenditures for fire control and for the construction of roads and trails which would have to be made by the state or by the counties if the land were in private ownership.

Both the theoretical and the practical advantages and disadvantages of these methods of compensation for the loss of direct taxes need much more thorough analysis and impartial study than they have so far received. Does federal ownership under present conditions impose a burden on some one? If so, is the burden carried by the local taxpayer or by the national taxpayer, or in part by both? Do some counties obtain more in the form of federal contributions of all kinds than they would if the land were privately owned, and do some counties obtain less? And how much more or less? Most important of all, what changes in the present system would result in greater equity?

National forest policies on timber sales, stumpage appraisals, access roads, and rights-of-way have an important influence on private enterprise which deserves constant study. So, too, does the efficiency of national forest administration. To what extent, if at all, is the Forest Service handicapped by inadequate appropriations and salary scales, or by alleged bureaucratic inefficiency in making the most of what it has? If such handicaps exist, how can they be remedied?

Department of Defense. World War II and the ensuing "cold war" resulted in the expansion of military holdings in California to nearly 4,000,000 acres, of which about 61 percent is under the jurisdiction of the Navy; 27 percent the Army (excluding the Corps of Engineers); and 12 percent the Air Force. Outside of urban centers and airfields, most of the land is brushy, desert, or mountainous. Single-purpose management for military purposes naturally prevails, but there is some use for grazing, hunting, and fishing.

The occasional charge that withdrawals and acquisitions of land for military purposes have been excessive is countered by the claim that many of the installations are too small to meet the needs of atomic warfare. The moral of the argument is that the various units in the Department of Defense should continue, and perhaps expand, the present policy of full consultation with other agencies — federal, state, and local—to make sure that the size and location of prospective enlargements of the system are such as to interfere as little as practicable with other uses.

Military installations make no contributions in lieu of taxes to local communities. This fact is of little significance in the case of the lands of low value, with little or no revenue, which comprise the great bulk of the military holdings. It is, however, of considerable significance in the case of the 250,000 acres, more or less, of high-value urban lands. There seems to be no strong sentiment in favor of changing the present situation, but its equity is at least open to argument.

State Lands. Of the 2¼ million acres of state-owned lands, more than two-fifths are "proprietary" lands under the jurisdiction of the various departments, more than a third are school lands under the jurisdiction of the State Lands Commission, and the remainder are in the category of tax-deeded lands. Some 200,000 acres under the control of the Department of Public Works raise few questions in land management other than the best means of making state highways attractive and of establishing and maintaining roadside rest areas.

The state system of beaches and parks has grown in fifty years from practically nothing to well over half a million acres. Ambitious plans for further expansion have been prepared and appear to meet with legislative approval. A major problem concerns the division of responsibility among the state, the counties, and other local agencies for the provision of park facilities and their administration. Integration of recreation on state lands and national forests will need further study if the new Forest Service policy with respect to special-use permits does not work out as satisfactorily as is hoped. Occasional criticism of the restrictions placed on multiple use in state parks suggests consideration of the advisability of permitting more uses than is now the case on certain areas where the primary emphasis is still on recreation—whether these areas are known as parks, recreation areas, forests, or by some other name.

In 1945 the California Forestry Study Committee recommended, and the legislature approved in principle, the acquisition of from 200,000 to 1,000,000 acres for state forests. Purchases and gifts brought the total area of state forests to about 71,000 acres by 1953. Since that date no additions have been made and none appear to be contemplated. This situation raises the question whether the entire program for state forests should not be reconsidered and a definite decision reached with respect to future policy. Has the need for state forests for restocking and demonstration purposes which was stressed in 1945 actually disappeared? If so, is there perhaps a new need for the acquisition of state lands on which timber production and recreation can be combined in a way that is not possible on either state parks or private lands?

Wildlife management, like every other field of land management, involves many unsolved technical, economic, and social problems. With respect to ownership, the 100,000 acres of wildlife refuges and management areas which have been acquired by the Department of Fish and Game appear to be reasonably adequate, provided the federal government grants the request of the state to place under its administration for wildlife purposes more than half a million acres primarily valuable for those purposes.

Somewhat more than 800,000 acres still remain in state ownership of the approximately 5,434,000 acres in Sections 16 and 36 in each township which were granted by the federal government to the state for common school purposes. Whatever may have been the wisdom of the past policy of selling school lands as rapidly as possible, or lieu lands obtained by exchange with the federal government, the desirability of continuing that policy deserves careful scrutiny. A possible alternative would be to retain at least a considerable part of the lands in state ownership, to block up desirable holdings so far as practicable by exchange or otherwise, and to place their management in the Division of Forestry. The decision as to whether sale, or retention and management, is preferable would naturally depend on which choice is likely to result in the larger income for school purposes—a question on which the advice of the Division of Forestry would be helpful.

A problem common to all state lands is whether they should make any contributions in lieu of taxes to local communities. Such contributions are now made in the case of certain state forests and certain wildlife management areas, but no others. It is less urgent than with the national forests and other federal lands because of the much smaller area involved, but nevertheless merits attention.

(*Turn to page* 62)

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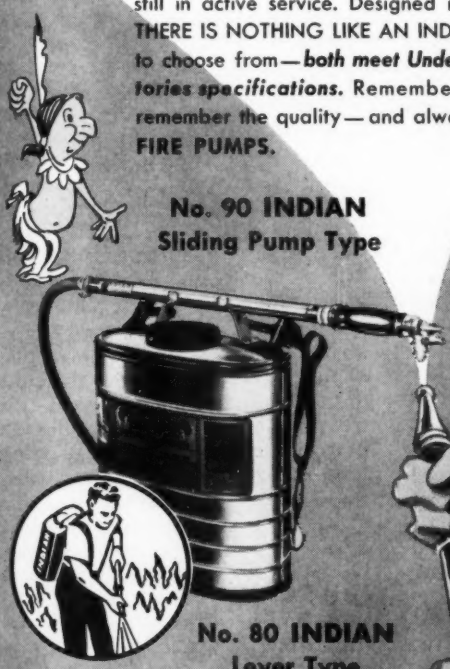
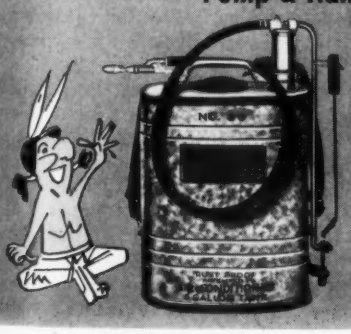


No. 80 INDIAN
Lever Type
Pump & Handle



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Klamath Water Big Cog in Oregon's Prospects

(*From page* 24)

such facilities are in sight in the immediate future. This added to the fact that added water storage will face the problem of evaporation which is high due to terrain features and feasible storage sites.

Damage to the existing watershed cover would affect not only the streams but would in all probability bring about a ruinous waste of other natural resources. Erosion is an ever-present evil with its land hungry activity and allied flood threat. The eastern portion of the Klamath Reservation is comprised of soils highly susceptible to washing. The northern and western portions are largely pumice in nature and could, possibly, act as a giant sponge for storage and replenishment of the underground water basins. But this soil can be saturated; and when it is, erosion is the result. Denuded of its forest cover it is highly unlikely that storage capabilities would remain at their present levels.

Much of the emphasis on possible sale of reservation timber and other resources has centered on the commercial and industrial side. But there is another face to the coin. Lying within the present boundaries of the reservation are untold recreation and conservation resources which must not be allowed to go up the spout. The area is the site of the vast Klamath Marsh, one of the major nesting and resting areas for migratory waterfowl. This wetland area covers approximately 85,000 acres, some in marsh, some in improved grazing land, all of it highly productive in the rearing of ducks and geese as well as carrying summer range for cattle.

Some of the finest trout fishing in the West is to be found in the rivers and streams of the reservation area—the Williamson, the Sprague, Wood River, Spring Creek and others. Certainly any ruthless destruction of precious watershed cover will see an end to these clear, swift streams as anything but gutters to the sea for the flood-washed soils. Existing parks would exchange their towering pines and long vistas of grass and stream for the dusty gullies and flats of high desert scab rock.

It is my opinion that the recreational potential of the Upper Basin has barely been tapped. Given time, and the preservation of the watershed, it can and probably will equal the more famous summer areas of Tahoe, Arrowhead, Yosemite and others to the south. The marshlands and lakes of the area can certainly be counted on to provide gunning for waterfowl hunters for years to come provided sufficient water at those periods when it is most needed. Here again, the destruction of watershed cover would result in the loss of our nesting potential. An early runoff in the area would cause flood conditions at the very period of nesting for many species of ducks and geese, followed by drouth conditions when the water was gone and stored capacities had to be pressed into irrigation and industrial use.

As water, the most valuable single resource of the eleven western states, is currently used in the Upper Basin, it provides first irrigation for the area's farms and pasture land. This water, with a total consumptive waste which is very low, serves the land and then is led back and dumped into the river or the lake where it serves again in the generation of power. After this double duty there is still a surplus for fish, wildlife and recreation. This power potential will be upped materially when the California Oregon Power Company completes its Big Bend project on the river below the Keno shelf, now under construction.

Figures kept over the years prove that this water use depletes less of the supply than would be lost if it were allowed to remain wholly in the marsh areas or were led into holding basins. But we must maintain the source, else there is little future for the Upper Basin and the downriver prospects are reduced accordingly.

The Klamath Watershed, or the Upper Basin if you prefer, is of great importance not only to the immediate area but to the areas lying to the south as well. Plans are already under way for a future diversion of portions of the Klamath River flow into the Trinity and thus to the parched areas of central California. The waters of the Klamath are protected for the areas of primary use through the agency of the Klamath River Compact, an agreement between Oregon and California reserving these rights to the areas of origin.

On the drawing boards are pumping and drainage plans which will add an additional 200,000 acres to the irrigated area of the Upper Basin. These plans cannot be brought to fruition without the water to work with. And that water will certainly not be available if the watershed itself is sacrificed in a fire sale for the benefit of cash in hand now with no thought to the future.

On the reservation alone present plans call for putting an additional 100,000 acres under irrigation. Some of this land will be highly productive agricultural land. The remainder and greater portion, will be or can be converted from wetland to summer pasture. If suitable arrangements can be made with the Fish and Wildlife Service and related agencies for the propagation of migratory waterfowl and the maintenance of the necessary resting and nesting grounds in this area of the Pacific Flyway the Upper Marsh could be easily and cheaply drained, reclaimed and brought into use as pasture. It is not practical to consider farming in this particular area due to the almost year-round frost which occurs at the high altitude.

I do not wish it said that I carry any brief for the total preservation of the timber stand under the guise of maintaining the watershed. Far from it. But we must accept the fact that unless sustained yield practices are carried out on the huge timber stands contained within the Klamath Indian Reservation, we are letting ourselves and our neighbors in the West in for trouble. Nor can we afford to overlook the potential value which will accrue to the land itself from such practices.

We have in sight in the immediate future the improvement of 300,000 acres of land. This land if put to productive use will find a ready market for 175 products in the California area which is growing with astonishing rapidity and looks like it is going to continue to do so. With maintenance of the watershed and the presently building dams along the river we have a prospect of greatly increased flood control for the reaches of the Lower Klamath. We have in sight the use of surplus waters from the reservation sources which will add to the industrial, agricultural and recreational potential of southern Oregon and northern California.

Already the economy of the area is beginning to expand as pulp interests move in. One plant, Johns-Manville, is already constructed and prospects for additional manufacturing plants are bright. That the area will gain in population is a foregone conclusion.

It would seem that the West and the Upper Basin in particular are turning a corner into a whole new world. And a lot of the prospects in that new world are going to hinge on the life-giving watershed of the Klamath Reservation and its waters and on the land which is served by that water.

Klamath Timber

(*From page* 26)

value, payment to withdrawing Indians of their share of the price, addition of the timber lands to the national forest reserves and allocation of the marsh lands for management by the federal Fish and Wildlife Service.

If these courses are followed, the withdrawing Indians will get their money, in my judgment there will be no resort to the courts, those who remain in the tribe will have the income from fair prices paid for stumpage on the portion of the Reservation maintained for their use, sustained yield forest management will continue and the Klamath marsh, highly important as a unit of the Pacific Flyway will be kept inviolate. And there are other values to be realized. Sales of timber by the Forest Service will bring an annual revenue to Klamath County for roads and schools (25 percent of the forest income) a continuing log supply for the mills of the region will be assured with opportunities for the small as well as the large operator to share in the annual harvest and the watershed will be protected, a condition essential for both the federal irrigation and the private power developments of the Klamath Basin.

Purchase by the United States is the economical course to follow. It would serve the general welfare. The crash program now contemplated will cost millions more in loss of sustained yield values, in worker dislocation, in tax losses, in depressed log and lumber values, in water supply impairment, and in damage to the general economy of the Klamath Basin and the rest of the pine producing region.

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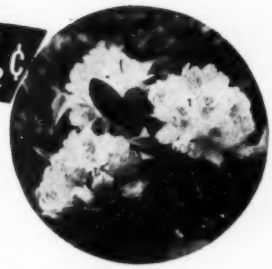

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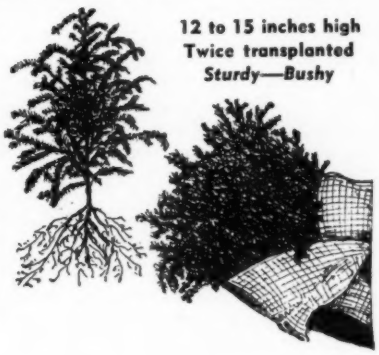

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Resources for the Future

(*From page* 27)

This change, the speaker stressed, could only have come about as a result of a popular acceptance of the concept that the resource base for the national economy was "not in immediate danger of exhaustion." The resource base has been greatly expanded and "to me it is also clear that this expansion . . . is the product of science and technology."

A major portion of Dr. Nolan's paper had to do with minerals. He said it is noteworthy "that even for these natural resources, which as everyone knows cannot be replaced when once consumed, we now think of the means by which needs for these commodities can be met, rather than express concern over their imminent exhaustion. How has this change in opinion come about? In general, it has been a gradual process that has been in part the result of new or potential production from sources that were unknown or not regarded as capable of exploitation in 1907, and in part through the development and utilization of substances that supplemented or replaced the common materials of the past."

While it is true we must face the eventual exhaustion of the oil fields, "we can view the possibility of exhaustion of even these reserves with some equanimity in the light of our research-derived capacity to produce synthetic liquid fuels from the tremendously large reserves of oil, shales, tar sands, and, in the still more distant future, low grade coals."

This "equanimity" on Dr. Nolan's part was apparent as it pertained to other areas of resource management as well as minerals although he said he was not so familiar with food and forest products as with his own field of minerals. But here again he was confidently optimistic as he saw science and technology carrying producers over future humps. One assumes this must be interpreted as a tribute to the forestry profession which Dr. Nolan feels has the gumption to reach woodland owners who as yet are doing very little in managing their holdings and to improve both the quantity and the quality of the product to meet the needs of a rapidly-expanding population.

On water he was more explicit. Quoting Dr. Leopold again, Dr. Nolan said that current problems of water surpluses or shortages, serious as they may be locally, are basically not problems of conservation so much as they are of economics. Quoting Dr. Leopold, the speaker said, "Except for the problems that arise through our desire to preserve portions of the original environment of the nation, all our other water problems are problems of shortage due to geographic and time variations, which, important as they are, can be reduced to problems of economics. Economic problems gradually become solved by the play of forces inherent in the market place. Water will be used in those places and for those purposes which can best afford to bear the cost under prevailing conditions."

Since these Centennial lectures originated, a number of readers have asked us if their purpose "is to put conservation on trial," or words to that effect. We did not think so initially after hearing Dr. Griffith state that a key purpose today should be that of unifying "science and conscience"—an indication, at least, that the public should not put all its eggs in one basket, including the Science Utopia basket. As a result of hearing Dr. Nolan, however, and more recently yet, Dr. John Kenneth Galbraith, of Harvard, we believe there is an element of challenge here in the sense that these scientists are challenging conservation to nail down its terms and definitions, cover the whole broad waterfront of human needs, and to admit that it is not a self-sufficient entity but part and parcel of the whole economic complex. In short, the challenge seems implicit here that unless conservation does these things, its role in America will dwindle until it becomes, indeed, merely the guardian of the outdoor esthetic concerns of the public.

What did the other speakers think of Dr. Nolan's speech? Byron T. Shaw, of ARS, gave Dr. Nolan's thesis a hearty endorsement but also warned that the job ahead is still substantial. Certainly we cannot afford to be complacent when destructive agents still take a heavy toll of our forests, when one-fourth of our forest land is poorly stocked, when 50 million acres or about one acre out of every 10 of commercial forest land, is in need of planting, and when much of the timber being harvested—one-fourth to be exact—is still not utilized for any purpose, not even fuel.

Despite all our efforts in conservation, soils are still deteriorating, Dr. Shaw stressed. "We still have big problems ahead of us with soils and forests, but I am confident we can meet them, if as individuals and as a nation we are sufficiently determined to do so," Dr. Shaw said. "Perhaps we need more of that sense of urgency that characterized the 1908 Governors' Conference."

Two other speakers took issue with Dr. Nolan's thesis. Dr. Robert C. Cook, director, Population Bureau, declined to accept Dr. Teller as an authority on human population trends and quoted Staley to the effect that "despite all our vaunted technological and economic progress of modern times, there are probably more poverty-stricken people in the world today than there were 50 years or 100 years ago." While Malthus may have guessed wrong in the short term, in grim earnest, his thesis still holds in the face of "a relentless acceleration of growth in population unprecedented in history," Dr. Cook stressed.

"It does no good to dangle before the eyes of these hungry people a trace-element economy of abundance a century hence," Dr. Cook said. "For a majority of the earth's people today, it is simply not true that their demand for a better future has any possibility of being realized short of a miracle of loaves and fishes. . ."

Dr. Harry A. Curtis, former director, Tennessee Valley Authority, denied that the ideas of conservation expressed at the 1908 Governors' Conference were "naive." There was no reason to be complacent over the situation that prevailed in 1908 and "I must say that, despite all the assurances expressed in Dr. Nolan's paper, I see no reason to be complacent over today's situation," Dr. Curtis said.

In an attempt to sum up Dr. Nolan's paper in a nutshell, Dr. Curtis said, ". . . all that he claims is that whereas the conferees in 1908 thought the cupboard would be bare the day before yesterday, actually there is enough to last until the day after tomorrow."

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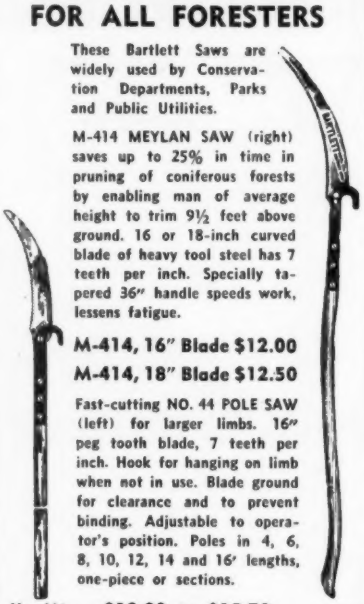

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(See Pages 8-9)

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Time Bomb in High Sierras

(*From page* 31)

regional forester Charles Connaughton and his timber management assistant, B. H. Payne. The council met at Porterville, headquarters for the Sequoia National Forest. A day was also spent in the field, discussing strategy. Bulk of the infestation—4,000 acres at first estimate—was on the national forest.

Battle plans were drawn quickly.

The first tactic was an alarm to all loggers in the area who could attack the enemy and possibly contain him. Sixteen operators met at forest headquarters, where they were shown a large scale map of the battle field. The field was divided into workable units that could be logged by October.

Zero hour was set for early October. By then, beetles would be going into hibernation under the bark —as egg, larva and adult. The plan was to get as many of the enemy out of the woods as possible while beetle presence was still detectable.

Routine timber sale procedures were abandoned in the face of the enemy. The problem was explained to the loggers. It was stipulated that logging had to begin in two weeks, and be finished by early October.

Trees were scattered. Road systems were incomplete. Big areas had to be covered quickly and thoroughly. It would take too much time and an impossible number of men to specify volumes and areas in the time available before beetles left the infested trees. Informal arrangements were vitally necessary.

At first bids of $5 per thousand bd. ft. were asked by the U.S. Forest Service, but big chunks of the timber finally went for as low as $.50 per thousand, depending on road systems, volume of bug-killed sawtimber in the working unit etc. One area with a fair concentration of killed sawtimber developed some competitive bidding. It went for over $5. All bids were oral and decisions were made on the spot.

The Sequoia-Kings Canyon National Park approach is interesting. In the words of Maurice Thede: "The Service viewed the infestation with concern, since a serious epidemic could radically affect the composition of a superlative natural forest stand which we are obligated to preserve and protect.

"These beetles couldn't read the Park Service signs. They walked in

on us. It soon became apparent that it would be necessary to fell and treat a large number of sugar and ponderosa pine in an area of concentrated public use.

"To fully inform the public, news releases were sent out; and at the site of control operations felled trees were signed 'Insect Control.' These two methods served to point out that the adopted control measures were a necessary part of the forest protection program.

"The control work was accomplished by chemically treating beetle infested trees, and by a salvage contract. The control work was efficient and effective and, it is hoped, may have served to retard the epidemic's spread in park forests.

"The ten-man control crew was busy all fall and will be reactivated in the spring."

Success of the multi-agency campaign is still unknown. It was simply impossible to remove all beetle-infested trees before broods matured, emerged and flew into surrounding green stands. A "time bomb" is set in the High Sierras. The fuse length is known. There is no known way to cut the fuse during the ,winter months. Size of the explosive charge is anyone's guess. A big swarm of beetles certainly lies dormant and undetected in the surrounding forest, but the full extent of the epidemic will not be known until spring, when the sap starts running in the trees and needle fade begins to develop again.

What is the actual and potential loss to the economy of California? What was saved?

Estimates are that ten million bd. ft. of merchantable timber will be killed as a minimum. Loss of unmerchantable timber is difficult to appraise. Sanitation-salvage logging has picked up four million bd. ft. This being a known sum, we can now ask—what is four million bd. ft. of timber worth?

Forest products economists estimate that 70,000 bd. ft. of timber will keep one man working a full year in primary harvesting and manufacturing. He supports ten people—family, service men, retail merchants. Four million bd. ft., then, salvages the direct livelihood of 57 men for a full year, in turn supporting another 570 people.

Payne of the Forest Service says: "If the Forest Service had been required to fell and treat those trees, it would have cost them a minimum of $10 to $11 per thousand bd. ft. The crash program of quick selling added $5 per thousand to the Forest Service income, saving the taxpayers at least $15 per thousand—or $60,000 for the four million feet." Add $60,000 to the 570 man-years.

On October 25, at a post-battle meeting in Sacramento of the California Forest Pest Control Action Council, Ivory pointed up the need for speed in manufacturing as well as speed in getting beetle killed-and-filled trees out of the woods before swarming to fresh victims occurs. He also spoke for the need of low stumpage charges for insect-salvage sales for reasons besides the costly logging procedure necessary in salvage operations.

"Especially in the smaller ponderosa pines, with a lot of sapwood, we find that the incidence of stain is far greater and faster in insect-killed than in fire-killed timber. Beetles seem to carry the stain inwards.

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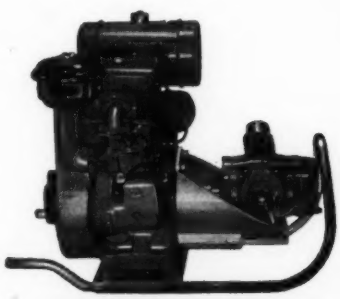

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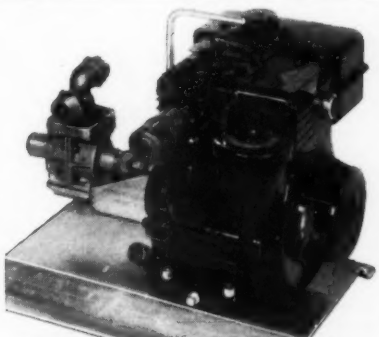

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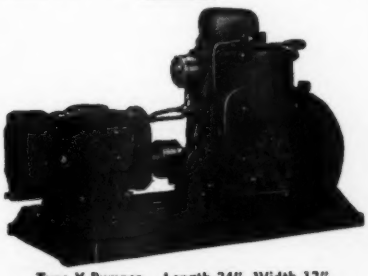
Pressure	50	100	150	180
Gallons per minute	11	10	9	8



Type Y Pumper Length 24", Width 12",
Height 15¼", Weight 70 lbs.

PUMPER PERFORMANCE—Y

Pressure	100	125	150	175	200	225
Gallons per minute	63	59	53	46	40	20

Sapwood becomes riddled with borers in many cases. Unsound wood results. This means that the sawmill operator *must* kill the insects in the sapwood."

Another lesson easily visualized in the battle of Fresno and Tulare Counties is that a nearby market is vital to successful salvage. Many dollars have been added to the gross product of California simply because a highly efficient manufacturing plant was in operation at Dinuba.

A story in itself is the remarkable plant of Ivory's where any mill leftover is a challenge to the ingenuity of Pat Ivory and his crew; where bark is composted for soil conditioning and orchid growing—sawdust goes into fruit packaging and wood flour—chips are railed to Antioch for papermaking.

Many words have been bandied over who is to blame for allowing the ever-present threat of insect infestation in forest management to break out in hot warfare in this central Sierra area.

A California Forest and Range Experiment Station brochure states in calm language: "A serious outbreak of these bark beetles developed on and near the 1955 McGee burn as a result of a build-up of populations in trees weakened by the fire. A zone of infestation has been established . . . further control action is likely to be necessary to mop up the infestation in this area next spring."

Leaving history behind, consensus of the forest industry men closely involved in the fight endorses the words of Pat Ivory: "The Forest Service should be commended for its speedy action once the full gravity of the attack was recognized. All governmental agency response was prompt and efficient."

In the words of another industry spokesman: "There is the necessity for widespread recognition of the fact that we must *promptly* salvage fire-killed, fire-weakened and windthrown trees to avoid buildup of pest epidemics in these natural brood grounds."

This, at least, can be said for sure. California in particular and the United States in general simply cannot afford the luxury of losing valuable timber to forest insects. As our population and standard of living grow, it is necessary that all timber-owning organizations be increasingly reluctant to allow insects to waste live timber. Public apathy or misdirection should be targets of more foresters. Waste of natural resources is un-American.

If epidemic populations of beetles can be removed by logging, the epidemic is diminished and the most economic salvage of the damaged material is obtained. That is why sanitation salvage-logging has gained such favor as a beetle-control method.

Fire has been one of the leading forestry challenges in the past. It continues to be; but insects have moved into a top place among forest enemies. There are similarities and differences in attacking the twin foes.

Greeley Went West

(*From page* 23)

there were but two schools of forestry in the United States, one at Cornell, the other on the Vanderbilt estate in North Carolina. The Yale school, opened in 1900, was endowed by the Pinchot family itself. By 1905 eleven colleges and universities were teaching forestry; in 1910, seventeen, and in 1915, twenty-four.

Meanwhile, lumbermen and other private forest owners were put on the defensive. Journalists of the muck raking school were quick to sense a new target. They turned happily from attacks on the Oil Trust, the Sugar Trust, the Meat Packers and other standard public enemies, to leap furiously at the devastators of the timber, the cut-out-and-get-out boys who were engaged in denuding the country, making ghost towns, spoiling brooks, creeks, rivers and bays with their slash and sawdust, leaving whole counties enveloped with the melancholy of graveyards of bleaching snags and rotting stumps.

Here, by the grace of the Devil and all his minions, lay the forest primeval. . . .

When this crusade got going full blast, the Forest Service was constantly badgered by freelance writers and newspaper reporters, many of whom had no interest in forestry beyond cooking up a lurid feature story with some lumberman as arch criminal. Greeley's patience, which then and later had its limits, was singularly tested by a determined woman, a crusader who fancied herself the Joan d'Arc type and who demanded that he give her "something graphic." The Colonel did not mention her name, but I fancy she was working at space rates for one of the Hearst papers; and what she wanted was a stunning, shocking feature — the kind of thing covered by the generic Hearst caption of NAILED HER FATHER'S HEAD TO THE WALL.

"It simply must catch the public's imagination," she told the Colonel. Inspired by this female's abounding ignorance, Greeley gave her the works. "Doubtless," said he, his face owl-sober, "the worst example of forest devastation in the world was the clear-cutting of North Dakota by the most notorious of our early loggers." He paused for effect. Joan's eager pencil was setting it down. "And the name?" she demanded in the crisp manner of the girl reporter of fiction.

Greeley said the name was Paul Bunyan. "Spell it," she commanded. Greeley not only spelled it, but went into some detail of how Devastator Bunyan was in the secret employ of the King of Sweden. The King was on the spot. His many subjects who had settled in North Dakota found the timber there so thick and big they could do no farming. The King —through some sort of a deal which the U. S. State Department never allowed to be aired—permitted Bunyan to move his loggers into the region and go to work. Result: the classic devastation of all time. "Never a tree," said Greeley, fixing the girl reporter with what I am sure was as grim an eye as that of the *Ancient Mariner*, "never a tree has since been seen in North Dakota."

"Marvelous!" cooed the crusader at space rates. "She snapped shut her notebook," Greeley remembered, "and thanked me with shining eyes. I never saw her story in print. But Old Paul had done me a good turn. She never darkened my door again."

A man blessed with so effective a sense of humor was well armored against the harassments that beset people much in the public eye.

In 1920 Greeley succeeded Graves as Chief Forester, just in time to hear the new President of the United States, Warren G. Harding, announce that it was now time to return to what he called normalcy. Harding's Secretary of the Interior, a man by name of Fall, had his own idea of normalcy, and set to work with a will to bring it about. Chief

Forester Greeley sensed almost at once that the conservation program of the Forest Service was to have some tough sledding.

It would not do, in anything less than a book, to take up the matter of the Harding administration. It is sufficient to say here, for the benefit of those who came in late, that it has been described as "the most corrupt since that of Grant." This is a feeble attempt at whitewash. The crew that moved into power with Harding was to remind scholars of Gibbon's sardonic account of the rulers who brought about the decline and fall of the ancient and holy Roman Empire.

That the Forest Service managed to retain intact its hard-won national forests was due largely, according to the Chief Forester, to the determination and ability of Henry C. Wallace, Secretary of Agriculture. "He was," said Greeley in later years, "the finest man I ever worked for."

Interior Secretary Albert Fall announced, early in 1922, that he planned forthwith to take over the national forests and the Forest Service to boot. His first act, he declared, would be to "fire the impractical theorist who is mismanaging the whole show." By which he meant Greeley.

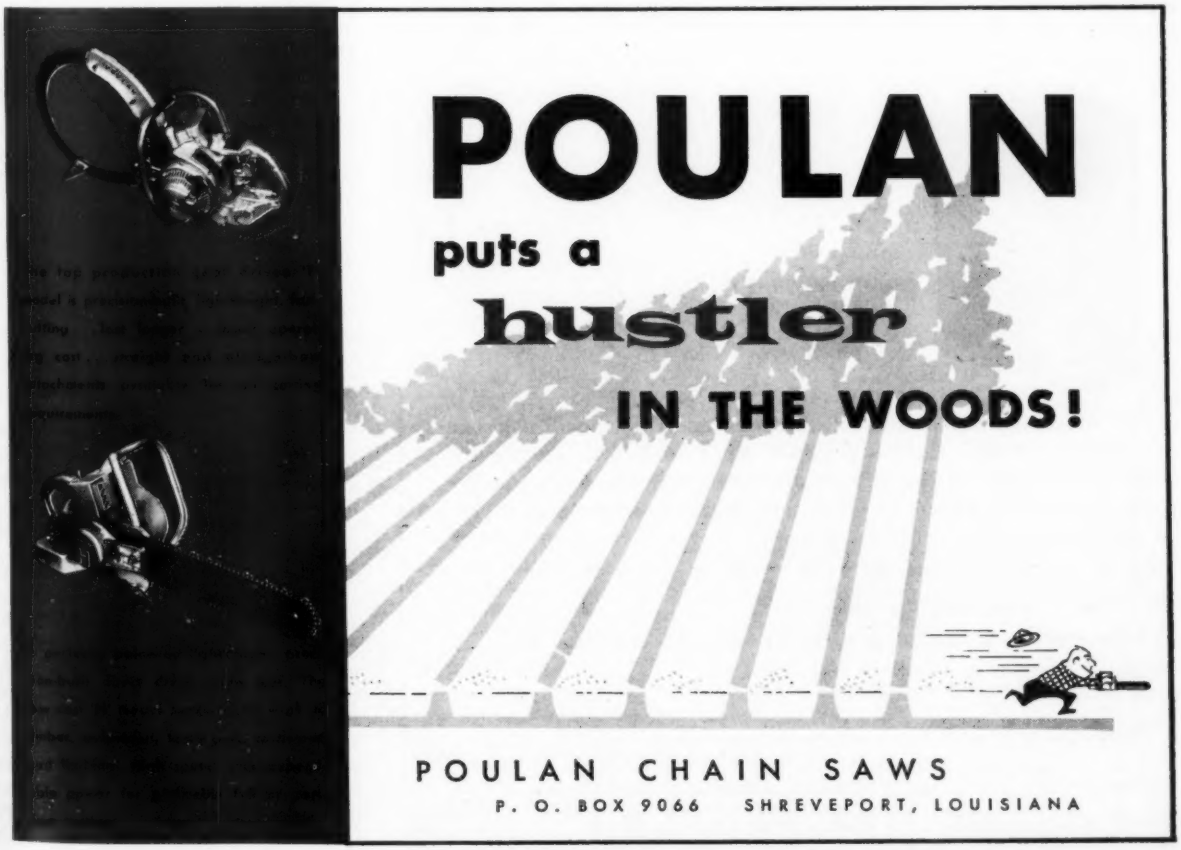
For more than a year Fall carried on his personal war against the Chief Forester. What the Interior Secretary meant to do with, or rather to, the national forests became clear in 1923 when, "like a clap of thunder," Albert Fall and all his schemes blew up and went into history as the Teapot Dome Oil Scandal. Fall left the cabinet overnight, and was later to spend some time in prison. It happened to be only one of the many scandals of the period; and it was one that set off other revelations which made a shambles of the Harding administration.

The Forest Service survived the four years of looting without a tinge of scandal. Meanwhile Gifford Pinchot, no longer in public service, was far from content with the lumber industry. The Timber Barons had shown little desire to change their cutting habits. As for *planting* trees, they replied they could not grow trees until trees were worth the cost of planting and protection.

Pinchot now demanded federal regulation of all private logging. More zealous than ever, he seemed to hold that the public interest in all forest lands was paramount. This interest was to be maintained whether or not the owners made money or went broke in the process. Many years later Greeley was to recall that "Mr. Pinchot's challenge reverberated through the forests like the silver trumpeting of a bull elk from a Teton meadow on a September morning."

The fight was on. The stand-pat wing wanted simply to "Stop Pinchot." Then, there were sincere groups who, though they wanted a more positive national policy toward private lands, did not like Pinchot's big stick. They joined to organize the National Forestry Committee that represented The American Forestry Association, which since 1875 had taken a leading part in conservation.

Members of this committee included Royal S. Kellogg of the National Lumber Manufacturers Association and E. T. Allen of the Western Forestry and Conservation Association, a team of inspired organizers who were also masters of strategy. Both abilities were needed to battle on even terms with the formidable Pinchot and his staunch allies in and out of Congress.



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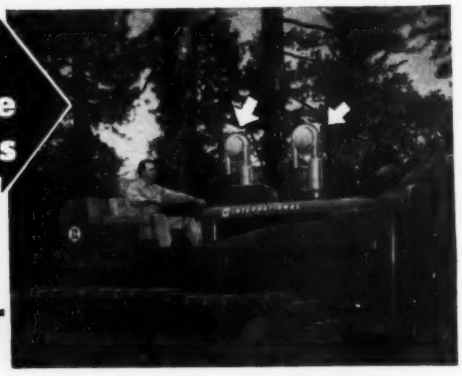

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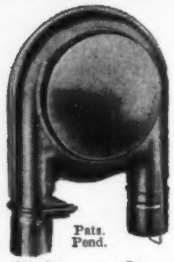

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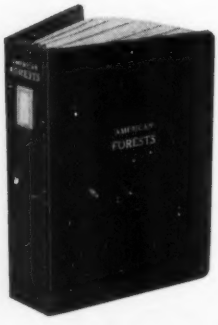

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3-58

The next four years witnessed many a minor battle in the campaign. A number of bills were introduced, to be supported or condemned by the opposing forces. Believing that some sort of control of destructive logging by public action was in the cards, Greeley hoped the two camps could find some common ground on which to join forces. He set a number of Forest Service men to work with state foresters, and with lumbermen, to put down in writing just what they thought should be the minimum requirements in cutting practices.

"My hardest work in those days," the Colonel remembered, "was to keep the lumbermen in the cooperative tent. They might easily have stamped off the reservation completely and taken to the warpath. Some of them did." Greeley, who thought the lumbermen, in agreeing to one of the bills, had gone pretty far to meet the public halfway, was worried lest they toss everything overboard and tell the bureaucrats to begone.

Long before the campaign was over, the rift within the Forest Service itself had widened. "Many of our most sincere men," Greeley said, "stood fast with Pinchot on his ivory battlements. These were the ardent crusaders, the left-wingers, impatient for fast action. Some of us, on the other side, could not thrill to the sound of trumpets."

This internecine strife shook the Service to its roots. Of his own side, Greeley reflected that possibly "we had labored more closely with the lumbermen. Perhaps we had been too close to the economic troubles of the forest industry." In any case, Greeley then and later doubted if worthwhile forestry could be brought to pass on the free soil of the United States "by federal police methods."

Greeley could not accept Pinchot's starting point, specifically that direct action by Uncle Sam was necessary. Pinchot told a Congressional committee that the naive Greeley had permitted the Timber Barons to pull wool over his eyes.

Now, even Pinchot's back was no stiffer than Greeley's. The latter told the Congressional committee he could not picture practical results in growing trees on private land by trying to force the change down the throats of the landowners. It would not do, in a case of this kind, to force police action. What was more, said he, private or industrial forestry was dependent upon the prevention of forest fires and "the nature and

weight of forest taxation." If there was one king-log in the whole jam, it was that the same public agencies which directed how a forest should be cut must also be responsible for its protection and taxation. Like General Grant, on another occasion, Colonel Greeley meant to fight it out on that line if it took all summer, or even longer.

Then, there appeared what Greeley termed a new chieftain who "quietly entered the field." He was Charles L. McNary, senator from Oregon. Reared among the Douglas-fir forests of his home state, McNary was endowed with an uncanny political sagacity. He told Greeley that one forestry bill in Congress was already dead, another was bogged down, and that both had contained "too big a dose for one bill." He asked Greeley what now should be done. "Stop the forest fires," was the answer. "All right," said McNary, "we'll write a bill around forest fires. But first we've got to build a fire under Congress."

Back in his ranger days Greeley had learned a lot about fire, and he went to work to build one in the Capitol. It wasn't long before the Senate adopted a resolution directing appointment of a Select Committee on Reforestation. Its chairman, Senator McNary, held twenty-four hearings in important forest regions. "I confess," Greeley said, "to packing the stand at committee hearings with fire witnesses." He also conducted committee members on some fairly strenuous foot tours through the timber.

When Congress convened, early in 1924, a bill was ready for its consideration. It was based on protection from forest fires as a cooperative action by federal, state and private owners. It was championed in the Lower House by John W. Clarke of New York. It was fortunate, too, that by this time Gifford Pinchot's new interest in Pennsylvania politics had left supporters of federal regulation without a leader. The Clarke-McNary Act became law.

It was and is an outstanding landmark in American forest history. In addition to its drive against fire in the woods, the act opened new fields of cooperation between federal and state agencies in all forest matters. Its passage cleared in large part the air of bitter controversy, and launched an era which, in comparison, was an era of good will.

Yet, as Greeley was to discover only a little later, the surviving Pinchot left-wingers were not con-

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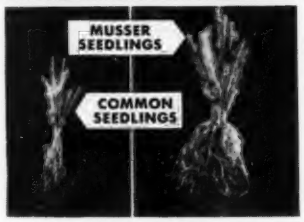

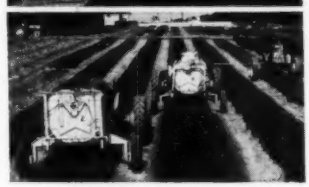

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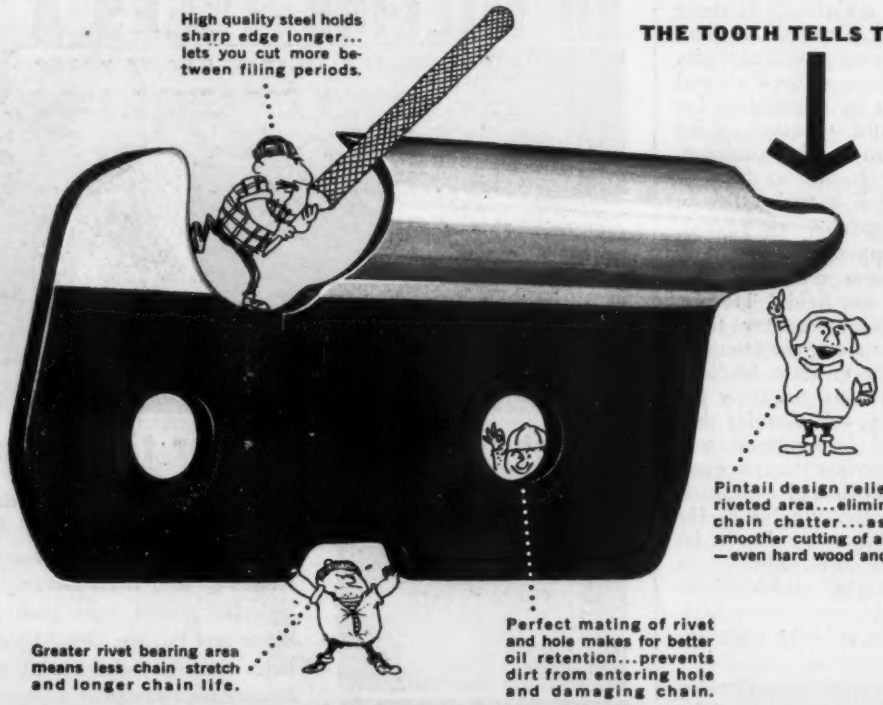
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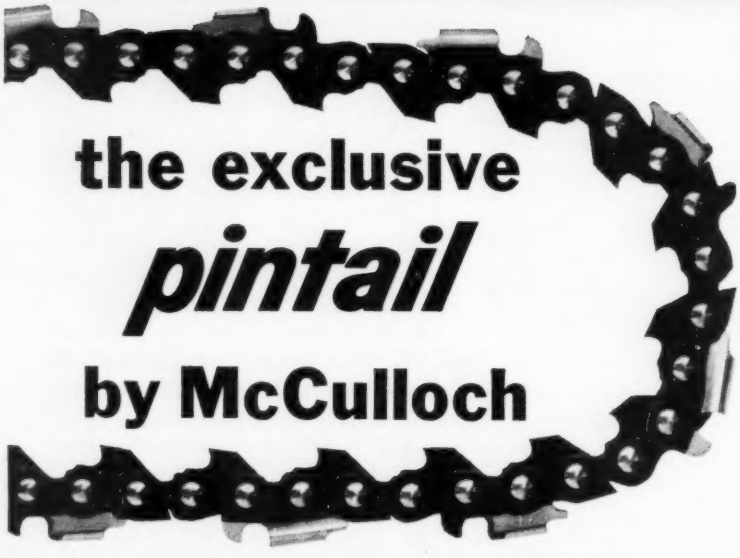

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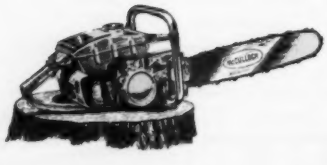

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vinced but merely went underground for a time; while many an old-line Timber Baron turned out to be no more in favor of Clarke-McNary than he was of a minimum-wage law or of "costly" safety measures in one of the most dangerous occupations in North America, which was logging.

The overall prosperity of the Twenties continued, but it was an uneven prosperity. The lumber industry, for all the hectic building of new mills, was not making an actual profit. Savage competition was making a loss-leader of much of its product. Two-shift and three-shift operations brought periodic gluts, and down went the plants for weeks, even months at a time. Despite trade associations, traffic groups, promotion groups, gentlemen's agreements, and all manner of cooperative efforts, America's oldest industry was generally unorganized, or perhaps disorganized.

Looking back recently, and checking the lumber trade press of the period, I find that not only was the Timber Baron still the public's favorite whipping-boy, but he was also desperate about the loss of his markets to steel, patent-roofing, paperboard, and other "substitutes" for wood. Nor for all his talk, had he yet done much to stem the tide. In 1927, for instance, I covered the annual meeting of a lumber association which, for the first time in its long history, voted to raise a fund for trade promotion. Though its members obviously believed they had taken a noble and daring step, the sum they voted was $10,000.

Ten thousand dollars seems a pitiful amount. It *was* a pitiful amount, but it was worth a headline in the daily press, and the trade press gave it a cheer. It was a sign, frail though it was, that no longer was the badgered industry content to turn the other cheek. I got up a full head of steam and wrote a fine editorial declaring that "henceforth lumber is to meet attacks in an able and forthright manner."

Though the much larger West Coast Lumbermen's Association had begun to spend considerably more than $10,000 for its trade extension, its efforts seemed to be getting nowhere. The most powerful regional group in the country was discouraged. We began to hear talk that what was needed was a Moses, perhaps a Napoleon, to lead the lumber industry out of the wilderness. Within the year George S. Long announced that William B. Greeley was "coming to the Northwest to take charge of the consolidated activities of the West Coast Lumbermen's Association and the West Coast Lumber Bureau," as the trade extension group was then called.

Just who suggested Greeley as the Moses was never, so far as I know, made public. Possibly it was George Long himself, but it matters little. Here he came, anyway, a rangey man, with deliberate step, unhurried, homely in the best sense, as solemn as an owl, save when he laughed, his calm if questing eyes peering out from behind large round glasses; in his pepper-and-salt suit of conservative cut, a sort of modified Stetson hat sitting squarely on his graying head. His speech was as deliberate as his measured step.... Here was a man who might or might not be a Moses, but a man who was not to be pushed.

And now, in the spring of 1928, at the age of forty-nine, with two successful careers behind him, William Buckhout Greeley had come West to start a new career. Officially he was secretary-manager of the West Coast Lumbermen's Association. Actually

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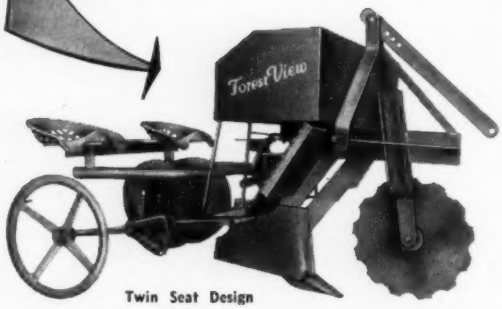

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3-58

he became and remained to his death the outstanding leader of the lumber industry of the United States.

The full story of Colonel Greeley as a leader of America's oldest industry awaits study of the Greeley Papers which have been given to the University of Oregon by his widow, Mrs. Gertrude Greeley of Suquamish, Washington, along with important contributions by Miss Ann E. Nordstrom, the Colonel's incomparable private secretary at the association. Until this latter-day correspondence has been assessed, anything about the Colonel's third and, I fancy, most important career, is tentative, a sort of interim report.

There was no sudden and radical change when Greeley assumed his duties. No new-broom upheaval. Yet those most concerned came quickly to know that the policies laid down were to be followed—to the letter. Behind the Colonel's calm facade lay a cast-iron belief that orders were to be carried out. He did not play the martinet, the military man. Bill Hagenstein, then a young industrial forester on the association staff, recalls how impressed he was that when answering the phone his boss never said else than "Greeley speaking." No rank, no title.

It is not to be supposed that the Colonel had no difficulties in organizing or reorganizing the several departments of the association, like Grades, Traffic, Trade Promotion, Timber Engineering, Government Relations, Statistics, Accounting, and so forth. But one feels they were easy tasks compared to converting a considerable number of older loggers and lumbermen to the startling idea of private, or industrial forestry. Here was a task for a Hercules.

Fifty years ago American foresters hardly existed. I readily recall the first bona-fide forester I saw in the timber. That was in 1915, a time when foresters were known to loggers and lumbermen, if at all, as professors. No heed whatever was paid to them. They were commonly classed with other odd people, say, butterfly collectors. The late Jigger Jones Johnson, boss of the camp where I then was working, referred to foresters under the generic term of bug-men, though when in a particularly sardonic mood he called them pismire superintendents.

When Greeley went to work on the surviving Pithecanthropi of lumbermen in the Pacific Northwest, these resistant characters held much the same opinion as did Jigger Johnson. If younger men doubt this state-

ment it is not strange, for by 1928 American forestry was a going concern with hundreds of graduate foresters employed by federal and state agencies. There were also a few industrial foresters, though these were lonely pioneers. Old-guard lumbermen either ignored them or denied their existence.

James Stevens, who wrote a fine tribute to his old boss in *American Forests* (January 1956) significantly remembered Greeley as "the tall ranger who rode like an oldtime evangelist of the circuits, seeking converts to conservation." That many of the converts came sore hard is evident from a few lines in the Colonel's book, *Forests and Men* (Doubleday 1951). In speaking of the Forest Conservation Acts of Oregon and Washington, he writes that these laws were "a bitter pill for many of the rugged, old-school loggers to take;" and that "I put in a lot of hard work to get the industry to go along with these state laws, and had some stiff rebuffs." It is significant that this is the only place in the book where the Colonel speaks of "hard work" and of "stiff rebuffs."

These rugged, old-school loggers are a subject about which I can speak from intimate knowledge. I knew many of them well, others well enough to know their opinions of forestry and allied matters. They were a tough and wonderful crew, devout believers, though they may never have heard of him, of Herbert Spencer, champion of laissez faire, the leave-us-alone school of philosophy. Taking *them* into camp was nothing for a weak evangelist to think about or, for that matter, nothing for a Bishop Asbury or a Lorenzo Dow to sniff at. Here were survivors of the cut-out-and-get-out days, hangovers of the Round Forty Era, the men who had cut the Big Swath from Bangor to Hoquiam and who meant, before they cashed-in, to clear Oregon and Washington and Idaho of the last damnable fir and pine that grew. Only when daylight fell fair in all swamps, would they be content.

These aging men of the timber were able to meet every change in technology without a quiver. They moved from bullteams to steam, from ground-lead to high-lead, from road-donkeys to railroads, and even then were beginning to pull up their steel and to lay truck roads for the internal combustion engine. But compliance with the new and far from radical laws seeking some measure of conservation was, as the Colonel remarked, a bitter pill indeed. The idea of a forester — a veritable bug-man, a superintendent of pismires — on the company payroll was unthinkable.

I do not exaggerate. I heard them discuss the subject with all the magnificent eloquence they had previously saved for the Wobblies. The Colonel did not convert them all, for many died with their boots on. Some he clubbed into compliance, but not conversion, by man-to-man arguments that it were better to "work out our own problems" to the satisfaction of the public than to have "government step in with its heavy hand." And no few others he actually converted spiritually with a promise, not that they would go to heaven, but that their monument should be the living green of the forest everlasting.

Even a few of the younger generation required some attention, but Greeley could have found them no trying task after having softened the troglodytes. Besides, an increasing number of the younger loggers and lumbermen were graduates of forestry schools. They were already converts.

It seems to have been the Colonel's

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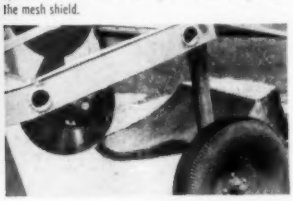

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policy, even while he was with the Forest Service, to encourage and help suitable young men to positions with lumber concerns. By the Forties this steady infiltration was beginning to pay off. The term "Greeleyism" was in use within the Forest Service as early as the late Twenties. It meant, so government foresters told me, "the movement of Forest Service men into private industry with Greeley's encouragement." I was told that "although this raid upon competent civil servants depleted the Forest Service of many of its most capable men, industry and the nation doubtless would be benefited." Others in the Forest Service felt bitter that their Chief had sent good men to work for the enemy; to them Greeleyism had some of the connotations connected with the memory of Benedict Arnold.

Greeley did not mind the connotations so long as the industry made room for company foresters. It was not to be smooth sailing, however; for whether these young men came from the Forest Service or direct from a forestry school, many of them quickly discovered that an industrial forester was less a working forester than he was a decorative addition to the payroll. If and when his suggestions as to logging the next quarter-section were seen to be in conflict with those of the company logging boss, the outcome was never in doubt; company forestry did not stand a chance with company production.

Here was an impasse that not even the wisdom and persuasiveness of a Greeley could solve. Greeley could and did do wonders to support the side of the angels, yet the individual company forester had, in the end, to prove his value before his voice could be heard in company councils. Once under way, however, there was no stopping the movement of foresters into industry. In the span of twenty years the industrial forester passed through the phases of hostility, then tolerance, to what we might as well call legitimacy.

As late as 1941, a public-opinion poll made by a lumber group indicated that Americans still had a strikingly low opinion of lumbermen. Government propagandists were doing their best, as Greeley observed, "to sell the public on the necessity of federal ownership and regulation." The younger lumbermen resented being cast in the part of public enemies. Far from being too proud to fight, these sons and grandsons of the original Timber Barons and all-around devastators were ready to take the offensive. There can be little doubt that Greeley did anything to gentle them.

At this period I had left the lumber industry to write books. But twenty years' connection with the woods and mills was not to be shrugged off. I never lost interest in the only industry I know anything about. Letters from an old friend, James (Paul Bunyan) Stevens were then keeping me posted. Jim, who worked under Colonel Greeley at the West Coast Lumbermen's Association, let me know of the fast rising determination of lumbermen to show that private enterprise would handle "the forest problem." He wrote with characteristic humor that the Teredo, a genus of mollusks of the family *Teredinidae* and which contained the notorious wood-devastating shipworm, was turning.

There was growing talk, he wrote, about industrial forestry and "tree farmers," a term Stevens generously said I had used editorially as early as March 1929; and there was discussion of a new forest fire prevention campaign which might well begin with a movement to "Keep Washington Green." Then, late one night in February—it was 1941—my telephone rang in Cambridge, Massachusetts, where I was doing research. It was Colonel Greeley. He wanted to know if I would return West to direct Keep Washington Green. Having just finished a book, but not settled on the subject for the next, I said Yes, that nothing could please me more.

For the next four years I spent the forest fire seasons working in the Northwest with Greeley and Stevens, with Industrial Forester Warren Tilton, State Forester Ted Goodyear, Publicist Roderic Olzendam, and a board of directors composed of logging operators and timber owners and Charlie Cowan of the Washington Forest Fire Association.

It was an experience both educational to me, and satisfying. Even while one watched, it was possible to see results of the patient and persistent work instigated in no small part by Colonel Greeley. I was one of a party, otherwise composed of industrial foresters *and lumbermen* and headed by the Colonel, to select the site for a forest industry tree nursery. It was an all but incredible experience to those of us who could remember when Daylight in the Swamp was the goal of lumbermen.

We watched the steady spreading of the Keep Green movement as it

swept across the country, east and south, embracing state after state. We watched while a new group called American Forest Products Industries accepted the first official Tree Farm in the United States, the first of hundreds dedicated to the proposition that Timber is a Crop.

We watched—and listened—while reconverted Timber Barons promised not only to cherish and protect their cutover lands but where necessary to plant them with trees grown in their own nursery at Nisqually. The mere idea of *planting* anything must have revolted a few of the still unreconverted lumbermen who survived the shock of reading about it in the papers.

The tree nursery, the Keep Green and the Tree Farm activities were at first often sneered at as eye-wash, camouflage, Barnum-stuff. If they *were* nothing more than primitive public relations, they turned out to be fatally attractive. Within a little while, logging operators were buying back from the states the cutover lands they had allowed to revert in lieu of taxes, and paying considerably more than the taxes amounted to. This cannot possibly be eye-wash. It is sound business. Cutover lands had become assets.

These movements seeking stability have continued down to the present, and they have been joined by other efforts to make permanent forests. Notable is the cooperative sustained-yield agreement made between the United States Forest Service and the Simpson Logging Company, a sixty-three-year-old concern of Shelton, Washington. Here, as Colonel Greeley hailed it in 1947, we can at last see in the flesh "the conception of cooperative forest management by our government and its citizens, long dreamed by forestry leaders." The agreement was made possible by Congress in Public Law 273.

Known locally as the Simpson Working Circle, the law provided for merging 150,000 acres of company lands with 110,000 acres of national forest under unified management for continuous production. The agreement is to run until December 31, 2046. Now in operation for more than a decade, the agreement underwrites the security of two forest-borne communities, and ensures the jobs and payrolls of some 1,500 workers in the Simpson camps and mills and the livelihood of the more than 6,000 people they support.

Colonel Greeley was active in bringing about this first cooperative agreement in government and pri-

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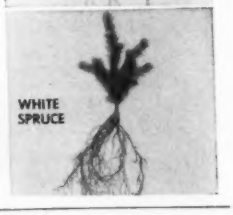

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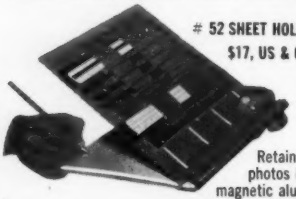

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vate forestry. He thought of it as much more than just a milestone in the history of the timber. He believed it should and doubtless would become a national policy.

There is no need, with an audience as sophisticated in forestry matters as the readers of this magazine, to describe in any detail the remarkable change that has come over the American lumber industry in the past thirty years or so. More than any other periodical *American Forests* has chronicled the story from genesis, and back beyond genesis.

In 1946 Colonel Greeley said he was retiring to his Tree Farm on the shore of Puget Sound at Gamble Bay. He retired only officially. Actually he continued active almost to the end of his life in 1955. It is good to think he lived to see a time when even cynical observers had to admit that America's oldest industry had caught up with the times. It is not to be thought that he alone brought the new era. Gifford Pinchot had a hand in it. So did many another honest man whose name may now be faded, or fading, or wholly unknown.

Yet no other man did more, or perhaps as much, to warrant the honor which Yale University plans for its distinguished son. The William B. Greeley Memorial Laboratory will serve to remind generations to come that surely, in those days, there *did* walk giants in the land of Gath.

Publication of the Greeley Story was made possible in part by the contributions of the Colonel's many friends.

25 Million More People—No More Land

(*From page* 44)

Private Lands. Commercial forest lands comprise more than 6 million acres, or about half of the area in private ownership outside of farms and ranches. This area is about a million acres less than the area of commercial forest land in federal ownership in the state and about half a million acres less than that in national forests. Of the privately owned area, 38 percent is in the form of large holdings (50,000 acres or more), and 32 percent in small holdings (less than 5,000 acres). The present trend is toward the consolidation of private holdings into larger units and toward more intensive forest management, particularly on the part of the larger owners.

Much more information than is now available is needed concerning the number, size, and management of properties in different classes of ownership. This is particularly true for the smaller ownerships, which include nearly a third of the area in this category. The relationship between size of ownership, character of the land, and potential returns should be more definitely established. Possibilities for wider application of the principle of multiple use of private forest lands, with emphasis on water and recreation as important secondary products, should be thoroughly investigated, particularly by the larger owners.

Mention has already been made of the need for further knowledge of the effect on private forest management of national forest policies with respect to the size and duration of timber sales, the appraisal of stumpage values, access roads, and rights of way. Opinions differ widely as to the influence of these policies on the stability of management and processing operations by private owners, and on the likelihood of obtaining full use of the raw material in national-forest stumpage through integrated production. The latter item is important not only because unnecessary waste is always deplorable, but also because existing mill capacity is in excess of the estimated sustained-yield production of the state.

Thorough study is needed of the Forest Practice Act, as amended by the 1957 legislature, to determine how effective it has been and is likely to be in attaining its objectives. The levels of forest practice set by the rules established by the regional committees and the State Board of Forestry, together with legislative and administrative action to assure compliance with them, deserve special attention. Study should also be made of the effectiveness of state and federal aid to private owners in the fields of forest protection, reforestation, forest management, and forest utilization and marketing.

Although taxation is a problem to which there will never be an answer satisfactory to all concerned, improvements are always possible. Intensive research is therefore needed on the effectiveness of Section 12¾ of Article XIII of the Constitution from the standpoint of timberland owner, tax assessor, and the general public. Other methods of taxing both land and timber should also be given careful attention.

What to do with California's extensive brush fields constitutes a problem of major importance for both private and public owners, and particularly for the former. Continued research on the possibilities of converting these areas to palatable forage or to stands of coniferous trees, and on ways and means of effecting the conversion most effectively and economically, is urgently needed. The possible effect of such conversion on watershed values should also be an important part of the research program.

Zoning. Zoning is a well-known and widely used tool for controlling the utilization and development of urban lands. Experiments are now being made in applying it to agricultural lands in California, but not to wildlands, except so far as the Forest Service is using the principle on a purely voluntary basis in the management of the national forests.

Careful study should be made of the possible advantages of providing legislative authority for the zoning of non-urban and non-agricultural lands by state and local officials. Such authority, if wisely exercised, might provide an effective means of implementing land-use plans and of encouraging the use of all lands for the purposes for which they are best suited. Zoning for watershed protection, timber production, forage production, or recreation, or for specified combinations of these purposes—permanently, periodically, or seasonally—might constitute a major step toward intelligent multiple land use. It must be recognized, however, that the tool is a dangerous as well as a useful one, and that sound judgment based on thorough knowledge of the biological, economic, and social implications of zoning is essential for its successful application. If zones are established, they should be reconsidered periodically, perhaps at intervals of ten years.

Research and Action

Any reader who thinks that this report recommends "endless research" is quite right. Research is the key to progress in every field of human activity. The need to know more about the world we live in, including individuals and communities as a part of that world, grows more urgent as more and more people demand higher and higher standards of living. How to achieve this goal with finite resources may not be an unsolvable problem, but it is certainly a difficult one.

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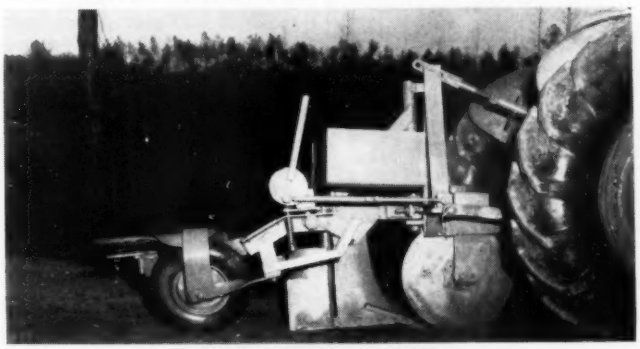

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and coordinated effort on the part of all research agencies with competence in the field of natural-resource management. "Muddling through" will never support the kind of an economy to which 40 million prospective Californians will aspire. Fortunately the state has already made a good, albeit inadequate, start at two major research centers—the University of California and the California Forest and Range Experiment Station of the U. S. Forest Service, located at the University of California in Berkeley. Other resources can be mobilized as a comprehensive research program is developed.

The University of California is well equipped with many strong units which have a direct or indirect interest in natural resource problems. Among these are the Agricultural Experiment Station, the School of Forestry, the Forest Products Laboratory, the Kearney Foundation, the Giannini Foundation, the Bureau of Business and Economic Research, the Bureau of Public Administration, and departments covering all of the biological, physical, and social sciences. Several of these units have had a long and sustained interest in research relating to wildland problems, including specifically that of ownership. The volume of this research has been substantial, and numerous publications have resulted from it.

The common tendency of university departments and other units to prefer a relatively autonomous existence means that special effort must be made to assure coordination in any research program requiring teamwork. The need is emphasized by the great diversity of available talent and by the strong individualities possessed by most investigators of high calibre. The unit in the strongest position to effect such coordination is the Agricultural Experiment Station, which already has interdepartmental research committees and a large Committee on Water, Forest, Range, and Natural Resource Conservation. With greater emphasis on this field its interest could be sharpened, its organization strengthened, and its budget increased.

Another alternative would be the creation at the University of California of an autonomous Natural Resources (or Wildland) Research Institute. Such an institute, in addition to taking the leadership in coordinating the activities of other units, would have a staff of its own whose full time would be devoted to wildland research. Handicaps would be the necessity of building a new organization from the ground up, lack of experience and contacts with other units in the university, and perhaps difficulty in capitalizing on the research capacity now and potentially available in the Agricultural Experiment Station. On the other hand, its autonomous position and its concentration on the single but enormous field of wildland research could give that field greater recognition and more adequate financial support than would be likely in an experiment station the bulk of whose activities is almost certain to continue to deal with more orthodox "agricultural" research. These and other advantages and disadvantages deserve careful consideration.

The California Forest and Range Experiment Station is the successor of the Feather River Experiment Station established in 1911. Like the university, it has a long record of substantial accomplishment in the field of wildland research. Its activities include investigations in forest and range management, forest protection, forest resources, forest products, and pest-control detection and appraisal. Its budget for the fiscal year 1958 is $920,165, plus additional cooperative funds and allotments from the Regional Office of the Forest Service. Although it cooperates closely with the latter office, it is administratively wholly independent. It has both the strengths and the weaknesses of a "monolithic" organization. It has the experience, the prestige, and the staff to continue to play a leading part in research in the wildlife field. Its program of activities, which is formulated with the assistance of a representative advisory committee, should of course be integrated with that of the university and other research agencies.

The action of the 1957 legislature in appropriating $100,000 a year for research by the Division of Forestry in the State Department of Natural Resources, beginning with the fiscal year 1958-1959, will enable that division to expand materially its present limited activities in that field. To what extent the funds at its disposal should be spent by the division itself and through cooperative agreements with other agencies, such as the University of California and the California Forest and Range Experiment Station, is a subject for continuing study. Other units in the state government, such as the Department of Fish and Game, the Department of Agriculture, and the Department of

Water Resources, might advantageously participate to an increasing extent in the broad field of wildland research.

Many other agencies, notably educational institutions, have latent resources for research in this field. Private owners can, and should, increase their activities. The services of management consultants can sometimes be used to advantage on specific problems. An essential but formidable task is to mobilize all available resources in a unified program of research in which each agency will assume the responsibility for which it is best fitted.

This report makes no attempt to list the various problems to which it calls attention in any order of priority. That is a matter to be decided after further study of their relative urgency and of available facilities. It is, however, appropriate to call attention to the advisability of conducting simultaneously investigations likely to be of indefinite duration, such as the identification and measurement of intangible, personal, and social values, and those likely to yield at least partial answers in a relatively short time, such as the adjustment of national-forest boundaries, the blocking up of public and private holdings, and the adoption of a policy with respect to further acquisition of state forests. It must also be remembered that new problems will constantly arise and that priorities will change.

Emphasis should be placed on the fact that advocacy of more and better research does not even remotely imply that action should be postponed until the results of research are forthcoming. Policies must be adopted, administration must be conducted, lands must be managed in the light of the best information currently available. Caution may be in order when the wisdom of any specific policy or practice is seriously in doubt, but when circumstances demand action, it must be taken. The function of research is not to stop action, but to make possible more intelligent action by increasing our fund of knowledge.

Knowledge alone, however, is not enough to bring about effective land management. It must be put to work, not here and there, but everywhere. It is an indictment of our vaunted practicality that this goal is achieved so slowly, if at all. In nearly every field of endeavor, and particularly perhaps in land management, we fail to use much that we know. What causes the delay in making practical use of the results of research, and how it can be shortened or abolished, would itself be a fruitful subject for study.

Next Steps

This exploratory study has made it clear that there is no one problem of land ownership in California. Rather, there is a multitude of problems, all of them interrelated, and many of them of national as well as state significance. Management of any one resource (water, wood, forage, wildlife, minerals, or recreation), which is controlled primarily by its ownership, affects directly or indirectly every other resource. Nor can wildlands be considered wholly independently of farm and urban lands. An exploding population, wherever it is located, puts a steadily mounting pressure on wildlands to produce ever more goods and services, and at the same time provides a market for their products.

These facts point unmistakably to the need for some arrangement that will assure continuing joint consideration of the land problems of the state by representatives of all interested agencies, owners, and the general public. Its overall purpose would be (1) to identify and stimulate a coordinated attack upon the problems urgently in need of study, and (2) to promote cooperation in the development and application of policies and programs of common interest. No means of attaining these objectives now exists. There is, of course, more or less constant communication among agencies within the state government and among agencies within the federal government. Moreover, the state and federal agencies often communicate with each other, with county and other local officials, and with private owners and users of wildlands. But these communications are for the most part haphazard and intermittent. They seldom bring together all of the agencies and groups interested in the particular problem under consideration.

Natural Resources Council. The urgent need for some device that will assure continuity and coordination in the consideration of wildland problems is more clear than the precise form which it should take. The most promising approach appears to be the creation of a non-salaried Natural Resources Council, to be appointed by the governor, with the advice and consent of the Senate, consisting perhaps of twelve members with staggered three-year terms. Three of these members would be chosen from

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the general public and one from each of the following groups: state government, federal government, county governments, timberland owners and forest products industries, livestock industry, farm interests, water interests, recreation interests (including hunting and fishing), and mineral interests. Its duties would be:

1) To identify, stimulate, and coordinate studies of current problems connected with the ownership and management of natural resources;
2) To advise the Legislature, the governor, and the various agencies and interests represented in its membership with respect to natural resources policies, administration, and management; and
3) To facilitate contacts and to promote cooperation among the groups and interests represented in its membership.

The council would have no administrative or policy-making functions. It would need an executive secretary and perhaps a small staff, but would rely primarily on other agencies, organizations, and individuals to supply the information essential for its deliberations. To that end it should be authorized to call on any branch of the state government for needed assistance, and funds for the purpose should be provided by the Legislature either through the council or by direct appropriation to the units concerned. While the state is without authority to commandeer help from other than its own agencies, it is assumed that those represented on the council would voluntarily cooperate to the best of their ability in supplying desired information.

One important responsibility of the council would be the development of a unified program of research in which each agency plays the part for which it is best fitted. Another major aspect of its activities would be to make sure that they take full cognizance of the national picture. Every state's internal policies are influenced by national policy and in turn influence that policy. Some of California's land problems are unique, but most of them it shares to a greater or lesser degree with other states. The council cannot therefore discharge its responsibilities most effectively without keeping in close touch with developments elsewhere, particularly at the national level. In doing this, it will be materially assisted by having in its membership a representative of the federal government who can serve in a liaison capacity with other federal agencies.

The proposed Natural Resources Council would fill a serious gap. It would supplement and help to coordinate the activities of existing agencies—state, federal, and private—without duplicating or taking away any of their responsibilities. It has some resemblance to the state natural resource advisory councils suggested by the Study Committee on Natural Resources and Conservation of the Commission on Intergovernmental Relations. That committee stressed the need for "promoting better understanding and facilitating cooperation among federal and state agencies of government," and added that "the councils will also prove helpful to the states in promoting the more efficient handling of their own natural resource problems and activities." Its comment that "the appointment of highly qualified members is of paramount importance" applies equally well to the council proposed herein. The chairman, in particular, must be a strong man, with breadth of view, vision, courage, and leadership of a high order.

Other Alternatives. Other possibilities of course suggest themselves. One would be to create a Natural Resources Council consisting of one representative from each of the existing boards dealing with natural resources. These include the Board of Forestry, Park Commission, Soil Conservation Commission, Mining Board, Fish and Game Commission, Wildlife Conservation Board, State Lands Commission, Recreation Commission, Board of Agriculture, Water Resources Board, Water Pollution Control Board, Public Works Board, and Board of Public Health. Members might be appointed by the governor or selected by the body they represent.

Such a council would have the advantage of being composed of persons who are already familiar with the appropriate departments of the state government and who have a voice in the conduct of their activities. This intimate relationship might also prove a disadvantage if it resulted in a one-sided approach to problems that ought to be considered from the broadest possible point of view. Another, more serious disadvantage would be the failure to include in the council any representative of the agency which owns and administers nearly half of the land in the state—the federal gov-

ernment. It may well be that there is room both for an ex officio council of this sort, which would deal only with activities within the framework of the state government, and a council with independent representation and much broader scope.

Another possibility would be for the governor or the director of the Department of Natural Resources, without legislative action, to appoint a committee with such composition as seemed to him desirable to perform so far as practicable the functions outlined for the Natural Resources Council. An additional function might well be to prepare a plan for a more formal, more permanent, and more authoritative organization for consideration and action by the Legislature. A committee with similar objectives but with no governmental connections might also be set up on their own initiative by a group of interested and public-spirited citizens. Either of these approaches would have the advantage of getting prompt action, but they would have the decided disadvantage that any committee established in this way would lack the prestige and influence of a council created by the Legislature. At best it would be hardly more than a stopgap, although perhaps a fairly effective one.

California is accustomed to new eras. Gold mining, extensive ranches with countless sheep and cattle, vast fields of grain, huge vineyards and citrus orchards, intensive irrigation, giant water developments, large-scale logging and milling operations, tourists and immigrants by the millions, mammoth industrialization — all have successively molded its economy and influenced its way of life. Today it faces still another new era, in which far more intensive management of its natural resources than has previously been practiced, or even contemplated, will be necessary to meet the increasing pressure that is being placed on them by an apparently unlimited potential population, with an insatiable appetite for goods and services that only the land can supply. The task is one to challenge the traditional capacity of Californians to do big things in a big way.

Time is of the essence in starting action that will assure continuous and coordinated consideration of California's land problems by all interested agencies. Even under the most favorable conditions there is bound to be a time-lag in the initiation of adequate research and the achievement of usable results, and a still greater lag in their practical application.

"It is later than you think."

Pulp and Paper Industry in the South

(*From page 7*)

a thing on earth but the corpse and the hole in the ground. They put him away and the clods rattled down on his coffin, and they buried him in a New York coat and a Boston pair of shoes, and a pair of breeches from Chicago and a shirt from Cincinnati, leaving him nothing to carry into the next world with him to remind him of the country in which he lived, and for which he fought for four years but the chill of blood in his veins and the marrow in his bones.

Mr. Grady did not mention the detail, but he was editor of *The Constitution* then which got most of its paper from Maine or Canada although disregarded and unattended little pines were growing in every county in which it circulated. There is an *Atlanta Constitution* story which suggests that you didn't have to go to a rural Georgia graveyard to find lacks in the South. It has a special appeal to me at this moment when suddenly paper is easier to get than advertising to print on it.

One city editor of *The Constitution* at the time was Julian Harris, son of Joel Chandler Harris, creator of Uncle Remus. And the editor of a small daily paper in Alabama had asked young Harris to protect him on the story of Queen Victoria who at long last seemed about to give up the ghost. The Alabama editor was short on funds so he asked young Harris to keep down the telegraph tolls by wiring every day just one word about the Queen: Better—Same—Worse—Dead. But Harris was off the night the old lady died and his substitute dispatched a telegram. It began: "Victoria, Queen of the United Kingdom of England and Ireland, Empress of India, Protector of the Faith, died tonight." It went on from there and from the resulting explosion in Alabama it sounded as if Sputnik had landed in the piney woods.

There has been some change since those days. Some editors even have fattened. Not everybody has been working just to keep the boll weevil

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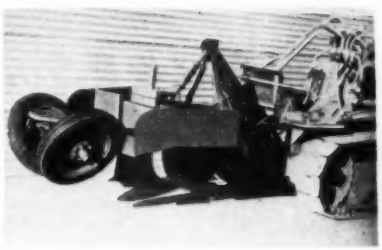

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in business. And no change has been so significant it seems to me as the great development of paper mills in the towns which give an almost miraculously better chance, too, on the land. The movement of people from the land in our times has not been for most of them an exile but an escape. Yet many have been able to stay on a better land for a better chance. No other industry has done so much for so many people in the Southern country and the Southern towns, too. This is certainly no time for any defensive explanations by the paper industry in the South.

Perhaps a Pulp and Paper Day might well serve to celebrate a great Southern development. I am, I confess, as a newspaperman allergic to the endless and repetitive days and weeks which push for publicity places on our calendar. I suspect the public is, too. Perhaps not in your case but in some others this business amounts to throwing a cliché to people who accept it as such. What I think is needed much more is a little more time in which to consider not merely what has happened to the South but what has happened to you. That might be the most surprising discovery in the meaning of the pulp and paper industry in the South.

There is a good deal of truth in the idea that historically the story of the Southern land has been that of a region in which the landlord was said to stay awake all night figuring out how to rob the tenant while the tenant was staying awake, too, figuring out how to rob the landlord. Such insomnia could recur and not only among landlords and tenants. I doubt whether that represented a higher percentage of larceny in the character of the Southerner. It was the old business of root hog or die, steal man or starve.

Some such attitude used to prevail in the forests, too. As recently as twenty years ago in the South, foresters were pretty suspicious of lumbermen when they were not hired by them. There were foresters who kept their college training secret when they went into the woods. There were businessmen who had no compunction about leaving new deserts behind their mills, and foresters who wanted to preserve forests as sort of museums. Nothing in our time has happened of more significance than the new partnership of foresters and businessmen in a process in which conservation is necessary to profit and profit to conservation.

From root hog or die, we have moved to plant, man, or perish. That was a long swift trip. And it is far from accomplished. In more things than trees in the South, as McCaffrey says, "We don't have it made." Yet my own feeling is that the pulp and paper industry has done more than any other to give the South a new chance to escape from its old root-hog dilemma. There are few Southerners who have not seen its benefits in Southern towns and woodlands, too.

The forests will grow. I count on the tree geneticists to startle us all with the results of their work. People are going to want paper, maybe bags in which to carry lunch to the moon. More important, all of us come to a time when nobody can talk of conservation as if it were a matter of planting seedlings and stopping fires. Conservation in your time, gentlemen, is the over-all matter of growth and change. It is a matter of understanding both hopes and fears around the forests and the mills. The Hansels and Gretels who were so lost in the forests now crowd our schools. There will be problems of taxes as well as trees. We cannot save the piney woods from scrub cattle and still preserve scrub people in the process. There will be demands to preserve county politicians in a style to which they never were accustomed. And, yes, there will continue to be people who are indignant if scrub oaks are denied the squirrels.

They remind me of the old man in the earlier South who came home with one to his cabin. "Old lady," he said, "cook the whole squirrel, let's live while we live." There will be demagogues about, and there will also be need to take care not to call all mistaken or dissenting men demagogues. And sometimes even in the field of conservation itself there will be temptations to cut corners. And there will be disagreements between honest men about plans and laws. I remember when Franklin Roosevelt vetoed a tax law regarding woodlands and cited his own experience as a grower of Christmas trees. And that, said Alben Barkley, indignant at his chief and representing the Kentucky forests was like comparing a cricket to a stallion.

As conservationists, I think you may as well face the fact that the industry which has given most may also be the one of which most will be expected. You have led us to expect much. In a single generation men have seen the same areas turned from man-made deserts left by the sawmills to the green and tended

groves of your accomplishment. They have seen mills, too big ever to move away, producing not merely paper but permanent prosperity.

Those visible things may turn out to be least important. More important things have taken place in the minds of men. I doubt that the disappearance of the old attitudes of cut out and quit represents any greater change than alteration from ideas of compulsion in conservation to programs of cooperation in good forestry practices. It is difficult to think of any men further apart than some predatory lumbermen and some guardian foresters even twenty-five years ago. Both have had to learn much, learn it fast. They have learned that grabbing and skedaddling is over, that man pretty well gets out of the woodlands what he puts into them.

He is a pretty dull fellow who cannot make the next steps in understanding from the woodlot to the community, from the forest to the region. I was not surprised to discover that a chief gripe of one of the top woodlands managers of one of the biggest companies was the low pay of school teachers in South Carolina. Trees and ignorance, trees and degrading poverty cannot be protected together. Furthermore, for safety's sake alone, there has grown the concept that forests cannot be kept by companies unless they are shared with people.

Within the memory of many of you a great forest products industrialist announced, apparently without fear of contradiction, that one of the first necessities in conservation was "stopping the hunting and fishing." Now nearly 14 million acres of the pulp and paper industry's forest lands are open to hunter and fisherman—and that's more forest than all the forest area of Texas. Sharing the land begins in such recreation and sport. But it grows in other things toward a concept of true trusteeship in the creative use of land.

Sometimes I doubt if you realize how much you have learned in the past twenty years. I am sure that none of you—none of us—realize how much more we are going to have to learn in the next twenty. Personally I expect the art of silviculture to be as altered as the science of physics. And I suspect that the forester who merely knows trees will be lost both in his woods and his world. There will, of course, always be technicians in our forests. But conservation will depend upon broadly educated, broad spirited foresters able to contribute to the total good order of the good earth.

"The Forest is the Future"—that was a broad statement when I made it the title of the short book I wrote last year for the International Paper Company. I am more confident than ever now that it is true. But that is not a compliment to you who protect it, but a challenge to you and your industry. You and your millions of acres, your high smoke stacks, woodyards, barges, trucks and trains will not be hidden in the South. You are big. Your hazard is in billions. And at this point I believe the good will you have created is worth billions, too.

Not many Southerners anywhere believe that your industry had gobbled up the land. You have taken it and tended it, made it flourish, put it to work for people on the land and in the towns, too. And you have learned as you have accumulated and handled it. Not only hunters and fishermen but all of us can see the free forest again and one at work building the resources of free men.

I do not like bigness. It is capable of powerful error. But neither do I have an addiction to a wasteland. You have taken not a domain but a responsibility. And to count the clear facts about it now, you have in reality made a green garden where a brown desert was spreading wider and wider in a poorer and poorer South. But you have done more than that. You have shaped a pattern of conservation which includes both creation and concern. The South needs both and both put together make its greatest, greenest chance.

The South and the paper companies, as I said, still have much to do. Either of them could make mistakes now which would hazard the future. But already above the forests of the South, the promise in now meaning-

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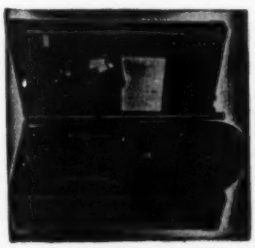

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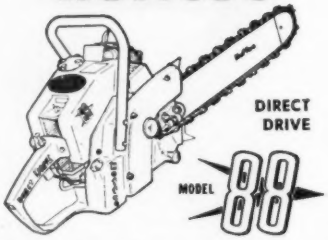

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Fred E. Hornaday, Executive Vice President

ful conservation is just about the brightest star in the Southern sky—and that has been a sky as often dark as lit by a romantic moon.

I know you will not fail in the conservation of people which is the only meaning in your conservation of the forest land. Behind your leadership last year all over the South I saw the people moving in the woodlands, along the roads, to the town, the mill, the school to keep green the South and safe in the South the fresh chance of a land in which hope has so often been high and so repeatedly disappointed. The chance now must not be lost.

"There will be trees," I wrote. "There will be paper. But the greatest promise is in people who plant not merely pines but all the possibilities in themselves."

In town and forest they will need the help of men like you—men like the men you are going to have to be if you fulfill the true requirements of your time and your task. Those requirements include not only a knowledge of trees but of traditions, of old fears and new hopes, a respect for the past and the courage to meet change, and perhaps above all, a faith in the good growth of all people by all the pines.

The forest is the future. And both the forest and the future belong to us all. But they belong particularly to you, however you dress, wherever you are. You are the unmistakable foresters of a land's hope and a people's chance.

Reading About Resources

(*From page* 12)

to Washington as Josephus Daniels' assistant secretary. In 1915 he wrote to the executive secretary of the New York State Forestry Association that he could not "devote as much time to forestry matters as I would like. However, I am able to go ahead with my own planting in Dutchess County, and have succeeded in interesting a good many people in that locality." Two years later he wrote the Secretary of Agriculture that, "As you know, I have been very interested in forestry in New York State and am greatly impressed with the great national danger that confronts us from the white blister or rust. Substantial aid is needed, and even the West is now threatened." This was written only a few months before the United States declared war on Germany, at a time when the Assistant Secretary of the Navy was immersed in military matters.

Despite the variety of his experiences throughout this nationally tumultuous decade which launched him in public life, Roosevelt did not in these years outgrow a certain naive, somewhat immature enthusiasm toward resource questions—an immaturity of judgment which, according to his enemies, he never outgrew.

In 1922, for example, two years after his unsuccessful bid for the vice-presidency, F.D.R. wrote to his friend George D. Pratt, then president of The American Forestry Association. "As far as I know," he lamented, "no forest in this country is run on a strictly business basis. It seems to be almost too much to hope that either the federal government or our own state government will go in, in the near future, for a permanent, annual, dividend-paying investment like the Black Forest, for instance, in Germany. This is, I believe, where a very great need exists." Then Roosevelt proposed to Pratt the organization of a company to purchase a tract of land within 100 miles of Manhattan for the maintenance of existing timber and the planting of new stock on a "business basis." The project carried a $500,000 price tag. "I am enough of an optimist," he assured Pratt, "to believe that there are enough men who could spare $25,000 apiece with the knowledge that they are doing something for the immense benefit of the nation. . . ."

George Pratt was a realist. "If the lumbermen cannot be persuaded to take up work of this sort," he replied to Roosevelt, "I do not know how other people will ever take it up . . . I do think you would have difficulty finding people who would be willing to go into a proposition to raise $500,000 with no prospect of a dividend for at least 25 years."

Of course, the lumbermen did eventually take up the idea, and throughout the nation today we can see many magnificent examples of the sort of forest management that had caught Roosevelt's enthusiasm, in 1922. As seems to have been the case repeatedly throughout his career, F.D.R. had until perhaps the last decade of his life an inexplicable knack for being ahead of his times—often too far ahead to make acceptable, and hence enduring, contributions

Roosevelt's instinctive political sense, coupled with the hard realities of the presidency, brought him during the 1930's to a more so-called "practical" viewpoint than he had had in his younger idealism, which is so clearly revealed in the many letters written during the Twenties on very minor, but to him very interesting, aspects of conservation. This idealism was not so much a fault as a testimony to what I believe was the sincerity of Roosevelt's interest, at least on these subjects at this time.

The years in the White House inevitably cast conservation for F.D.R. into a completely new context from which he had previously regarded it. What had before been merely interesting to him as a countryman, now assumed national importance. Hundreds of thousands of votes now hung on issues which to Roosevelt had just yesterday been subjects for pleasurable diversion.

The New Deal terms of his Administration chalked up an incomparable score in resource preservation, much of which was based on freshly conceived policy. We are all familiar with this record: The Soil Conservation Service, the Taylor Grazing Act, the Duck Stamp and Pittman-Robertson Acts, the Quetico-Superior Wilderness Committee, the Norris-Doxey Farm Forestry Act, together with an astonishing expansion of both wildlife refuges and national forests and monuments—these are only samples of what this countryman from Hyde Park accomplished for conservation during those strangely domestic years before World War II.

Possibly many of these measures were ill-advised. Possibly the nation's renewable resources could have been better served in other ways. But for better or for worse, from conviction or from headline-hunting political advantage, F.D.R. served this country's resources with an imagination and a vigor which brings to mind no other president but his own illustrious cousin from Oyster Bay.

The war put a stop to many of these efforts. How firm a stop it was is made painfully clear in the second volume of *Franklin D. Roosevelt & Conservation*. Yet as early as 1944, when the burdens of war were still inconceivably heavy, F.D.R. could summon up enough of his old idealism toward the land to write to Cordell Hull:

"In our meetings with other nations I have a feeling that too little attention is being paid to the subject of the conservation and use of natural resources. . . .

"Conservation is a basis of permanent peace. Many different kinds of natural resources are being wasted; other kinds are being ignored; still other kinds can be put to more practical use for humanity if more is known about them. . . .

"Many nations have been denuded of trees, for example, and therefore find it extremely difficult to live on eroded lands. Many nations know practically nothing of their mineral resources. . . .

"It occurs to me, therefore, that even before the United Nations meet . . . it could do no harm . . . to hold . . . a gathering for the purpose of a world-wide study of the whole subject.

"I repeat again that I am more and more convinced that conservation is a basis of permanent peace."

This letter says a lot about F. D.R.

Forester's Notebook

(*From page* 10)

forest research has been or is being done in Kentucky.

"7. Secure tax legislation to favor the growing of tree crops.

"8. Establish a classified civil service system. Lack of such a system has hindered Kentucky for years. Too often the state serves merely as a training ground for other organizations."

C. H. Coulter, Florida: "We in Florida need to push the bringing in of all lands under organized fire control as rapidly as possible. This last year only four-tenths of one percent of the protected land burned, but 40 percent of the unprotected area was ravaged by fire. Thousands of small woodland owners are involved and their tracts are particularly vulnerable to fire as they can not do the job themselves.

"In the last ten years federal participation in cooperative fire control has dropped nationwide from 47 percent down to 23 percent. In view of the added cost of doing the job, the need to protect additional acreage, and the necessity of forest products for national security, the Federal CM-2 appropriation should be in-

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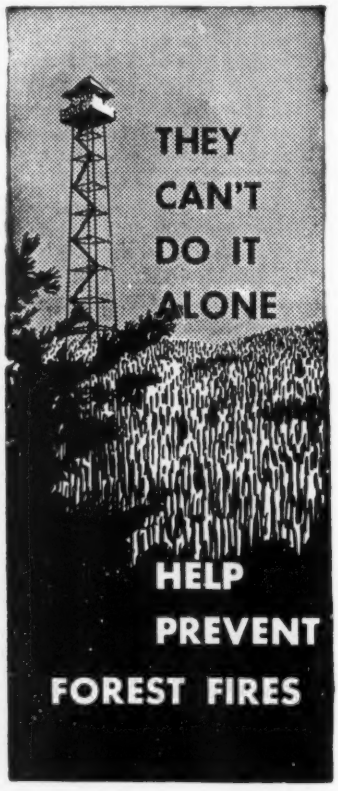

creased from the present $10,043,000 to $20,000,000.

"The cooperative forest management program should be increased by $500,000 to meet the demands of thousands of small woodland owners.

"Additional funds are needed for a long-range research program covering the whole field of seed, nursery, and planting research. (Ed.—Florida topped the nation last year with 218,860 acres planted but has 3 million acres yet to cover.)"

Ralph H. Wilcox, Indiana: "Our native hardwood lands are very important and hold the key to being able to maintain a satisfactory timber supply. These wood lots are in the hands of 100,000 owners, mostly farmers, and are seriously in need of technical forestry guidance, timber stand improvement and better management.

"More attention in the way of actual effort and work, as well as appropriations, should be devoted to insect and disease control."

F. H. Raymond, California: "Future accomplishments in forestry are dependent upon the management given to small forest ownerships. Management of woodlands should receive first priority. Next in importance is marketing information.

"Because of national defense needs, states may have to assume more of the burden of increased services as we are doing here in California."

A. D. Nutting, Maine: "Public money for protection, both fire and insect pests, is an essential preliminary to good small woodland management. These problems have to be solved largely through public agencies.

"One of the best things ever done in New England by public agencies, for small owners, was the assistance given following the 1938 hurricane. Offering a market for timber products did a great deal to take the risk of complete loss by natural disaster from the shoulders of the owners. (Ed.—Incidentally, the government realized a net profit on its 100 million dollar investment in New England Timber Salvage.)

"Stability of ownership is a major problem. No one has come up with a good answer. Leasing of timber rights has possibilities. But success of such a movement is dependent upon good public programs of taxation and management assistance."

E. W. Littlefield, New York: "It is certainly a fact that the Norris-Doxey Act and its successor, the Cooperative Forest Management Act of 1950, have provided tremendously to the states along cooperative forestry lines. I think it will be difficult to get what we might consider an adequate program for this activity."

Roger L. Guernsey, Idaho: "The forestry strength of the nation will depend largely on the small woodlands. The priorities are:

"1. *Creation of Adequate Markets.* There can be little incentive to grow forest products if there is no place to sell. On the other hand, markets do not always give strength to forestry. It has resulted in premature cutting.

"2. *Education to Appreciate Forests Values.* Our small owners must be made aware of the value of trees, i. e., the advantages of letting merchantable trees put on a couple more inches.

"What is *not* needed, and what would be a further bureaucratic dud, is a *federal* market reporting agency. State and local agencies and industries can and must act more effectively to keep the small owner advised of markets and fair prices.

"The big job is education."

T. E. Daw, Michigan: "One of the most pressing needs is better forest management on the small woodlands. Timber stand improvement work, to remove inferior species and unusuable growing stock, should rate a high priority. A recent study in the vicinity of Lansing shows only 10 percent of the stands are composed of high quality material, 16 percent medium quality, 54 percent low quality and 20 percent are cull.

"To get the job done everyone must work hard with all the personnel and facilities available. Nobody needs to be concerned about running out of productive work.

"Another problem is to give more assistance to primary wood processors. Selling these processors on good woods management and getting them to improve their production

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would go a long way in solving the problem."

Alden T. Cottrell, New Jersey: "In New Jersey we need: a) additional personnel, b) a program by which some type of cooperative (marketing) could be worked out with small woodland owners, and c) a more adequate educational program."

O. A. Alderman, Ohio: "Our most serious problem is the improvement of the small woodlands. There are 119,000 farmers in Ohio who own an average of 26 acres each. These woodlands have been subjected to all sorts of abuses, principally grazing, high grading and inadequate stocking. Cull material is a problem with most owners who are unable to remove worthless trees except at a loss, and many are not in position to absorb this loss.

"We are taking advantage of the ACP program for tree planting and forest stand improvement to a considerable extent. I hope this program does not fall by the wayside as a result of a stepped-up defense effort. If any program has to be sacrificed, I would prefer that the Soil Bank be lost before the ACP program, and that if reduction of the latter is necessary the cost-sharing of forestry work be given preference over some of the other practices.

"I urge opposition to any action of Congress to create additional federal forestry programs. There are too many now. If additional service is needed, it would be much better to amend existing legislation than to create a whole new program."

M. A. Ellerhoff, Iowa: "Cooperative state and private programs have not kept pace with other forestry and conservation programs.

"Iowa's forestry problems are 99 percent tied directly with the landowner. We need 17 farm foresters. We are only able to supply five. . . ."

A. D. Folweiler, Texas: "I am not nearly as much concerned about growing more timber for future generations as I am about the utilization of timber that we now are growing. . . .

"The cooperative programs have been so successful that we are now approaching a period of wood abundance. Unless we foresters now become just as ingenious about additional means of utilizing the wood that is being grown we may be severely criticized within the next 15 or 20 years for so enthusiastically promoting tree planting."

(Name Withheld by Request): "In my opinion neither the forester nor the owner of woodland is unmindful of the importance of woodland to our national economic health or wealth, but both are completely at the mercy of economic laws.

"The old time farmer-woodland owner, the real honest lover of the land and its wholesome life is being industrialized out of existence. In fact the majority of farmers in this area now look to industry as the main source of income, relegating farming to the status of part-time employment. Not too long ago the program was farming in the summer, logging in winter. Now it's industry 40 hours a week and farming in the non-industrial time. This is respected not as a matter of choice, but as an economic necessity. It is quite obvious that our forest lands are under attack from more formidable opposition than fire, wood using exploitation, disease and insects, and that moderating the impact of these on forest lands calls for more than the expenditure of public funds on what remains of our forest heritage."

Albert W. Gottlieb, Vermont: "This past year has shown what fire can do, even here in the Northeast. Fire control certainly can not be overlooked and we have a long way to go in pest control work. The latter should have more emphasis than it is getting.

"Getting the plantable land in the state planted is another problem. Things will look much better in the year 2000 if this land is in 40-year softwood plantations rather than cull hardwood stands. Obviously the Soil Bank in its present form will not provide the incentive necessary to get the job done here. Worn out pasture land, which is a sizable portion of our plantable land, is not eligible under the terms of the Soil Bank."

George W. Dean, Virginia: "The

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3-58

greatest need so far as Virginia is concerned is inducing small landowners, who own 85 percent of the timberland in the state, to use good forestry practices in the growing and harvesting of their timber crops. (Ed.—Virginia leads all other states with 53 farm forestry projects.)"

Gareth C. Moon, Montana: "Cooperative state and private forestry activities should keep pace with other programs. The present forest management program is one of the best cooperative federal-state-private ventures our government has entered. The Clarke-McNary Act with its fire cooperation features is of extreme importance."

L. T. Webster, Washington: "We do not have the finances to employ a sufficient number of qualified foresters to work on an adequate small woodland program. This can be alleviated by additional state finances plus help from the Cooperative Forest Management Program of the U. S. Department of Agriculture.

"Company wood procurement policies should require that sound forest management practices be followed in the removal of wood from all ownerships. This undoubtedly can do more to accomplish sound forest management than any single factor." (Ed.—A few companies in other states pay a premium for wood as an inducement to the landowner to practice sustained yield. In the South pulpwood companies employ 125 foresters to help other private owners.)

George O. White, Missouri: "We still have four million acres of forest land in need of organized fire protection. We had wonderful success last year on the 8 million acres we are protecting but the weather was with us and we know we need to be organized more fully than we are at the present time. I hope The American Forestry Association can press for an increase in the cooperative forest fire control funds. A reasonable federal increase would be a great help in our getting increased state funds.

"If the federal government and the state government would each match the amount that the sportsman supplies from his hunting and fishing permit—*That would do it.*

"What we need is enough money to let our foresters help our people help themselves—for timber economy, game, fish, water, recreation and a better, more beautiful land."

John Childs, Minnesota: "Unless we secure productive forest management of the small woodlands, it will not be possible to meet the predicted

wood requirements of the year 2000. The basic needs are:

"1. Secure and develop markets of low grade material in order to make room for growth of high quality material.

"2. Encourage industry to require good management of the woodland as an entry into markets.

"3. Expand state and federal funds for private forest management service plus market and utilization research."

Teenagers Manage a Forest

(*From page* 35)

was equal to about the total produced in all mills in the United States for the year 1932. Wilson also reported that of the timber lost, "Eighty-two percent was Douglasfir, 15 percent hemlock, 2 percent cedar, and 1 percent other species."

After the tragic Tillamook fire of 1933, rapid deterioration of usable timber was caused by insects and disease, but a salvaging program was begun. Wilson announced that, "Douglasfir sapwood was penetrated by borers within six years, and was soon broken down by rotting. After ten years insects reached the heartwood." To make matters worse, salvaging was difficult in this rough country, because more logging roads were needed.

Six years later, in 1939, a second blaze flashed through already plundered land. Seed sources were destroyed, new trees killed, and when the last flames were smothered, 190,000 acres had been reburned.

Foresters were almost becoming superstitious about the six year cycles which brought such devastation to the area. The hot, dry summer of 1945 was no exception. As the humidity dropped, forest control tightened. Many people were kept out of the area. Those who stayed were warned to exercise extreme caution. June passed without trouble. Then on a scorching July afternoon a fire broke out in almost the same place as had the first blaze in 1933.

Men and school boys poured in from neighboring towns to hold back the inferno. Marines, soldiers, sailors, and high schoolers sweated side by side over already scarred ground to fight the glowing snags. Four thousand men, supervised by the most skilled forest people in the Northwest, battled six sizzling weeks to halt the 1945 fire. This time 180,000 acres of trees were burned over; and three men died.

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Financial Statement, The American Forestry Association

BALANCE SHEET AS OF DECEMBER 31, 1957

ASSETS		LIABILITIES AND SURPLUS	
Cash	$ 82,070.72	Accounts Payable	$ 8,786.02
Accounts Receivable	2,397.31	Other Current Liabilities	1,450.64
Inventories	15,420.41	Due Endowment Fund Advance	4,925.96
Furniture and Equipment (Net)	1,859.47	Deferred Income	109,952.59
Other Assets	2,032.67	Surplus	257,023.73
Endowment Fund Assets	278,358.36		
Total	$382,138.94	Total	$382,138.94

INCOME AND EXPENSE ACCOUNT FOR THE YEAR ENDING December 31, 1957

EXPENSE		INCOME	
Membership	$ 57,742.65	Membership Dues	$179,382.04
American Forests Magazine	135,096.64	Advertising	69,617.58
Sales	18,177.62	Sales	21,653.49
Forester's Office & Projects	73,241.42	Trail Riders	61,294.32
General Administration	51,545.29	Contributions and Bequests	19,084.24
Total Expense	$335,803.62		
Excess Income over Expense	15,228.05		
Total	$351,031.67	Total	$351,031.67

In our opinion the above condensed Balance Sheet and Income and Expense Account, fairly present, respectively the financial condition of The American Forestry Association at December 31, 1957, and the results of its operations for the year ended on that date.

SNYDER, FARR AND COMPANY
Certified Public Accountants

Out of this great tragedy, which has so affected Oregon's economic life, has come a great replanting program; a program carried out, to a large extent, by many school districts in Oregon.

In the Portland schools the replanting of the Tillamook Burn has become a unique outdoor workshop in conservation *handled entirely by teenagers.* Everything, from planning trips to planting trees, is done by a committee of high school students. Three leaders are selected from each of the eleven high schools to set up the program. These teenagers meet once a month with Dr. Donald W. Stotler, head of Portland's science department. Here, problems are discussed, and trips evaluated as to their effectiveness.

Students also organize future replanting projects with the principal and faculty. They charter buses, call the state forester who meets them at the Burn, and prepare all publicity.

Since 1950, when the program started, business people, civic groups and individuals have shown their faith in the youngsters by giving nearly $10,000 to the transportation fund, which pays for chartering buses. Large signs, with the name of the sponsor, are painted and placed on the sides of the buses so students and the public will know who is financing the trip.

The State Board of Forestry provides trees, tools, and a forester who helps in this work. Portland has a large plot along the Sunset highway on which students plant. Each high school is responsible for its own forty acres. Boys and girls are careful about planting their areas properly, because each school wants to do just a little better than its "rival" next door.

High school leaders have broadened their programs to include elementary schools. Here, too, these youths plan all trips. Only sixth, seventh, and eighth graders are allowed to participate because planting seedlings is too hard for younger children.

Elementary classes must first study conservation before they can qualify for a trip. A high school student visits the classroom to show how holes are dug and trees are planted. Some even take classes out on the playground to demonstrate so youngsters will understand the entire operation.

Parents are required to sign slips permitting their children to go. Each child is reminded to take an extra large, nourishing lunch. Children are so hungry by the time the morning rest break is called that their "snacks" equal an average school day lunch. Youngsters are also told to wear warm, loose fitting clothes so they can work comfortably. "These trips," commented one teenage leader, "seem like picnics at first, but after an hour of stumbling through underbrush and digging holes, we become aware that it's just plain tough work!"

High schoolers handle conduct on the buses, too. They also check to make certain their area is clean when they leave. Back at school they see to it the notes of thanks are written to trip sponsors and to the ever helpful forester.

In the past seven years about eight thousand Portland school children have planted close to 500,000 trees. Each youngster plants about one hundred a day. With eighty eager adolescents on each trip, this means that eight thousand trees are added to the rebirth of Tillamook Burn.

A field trip to the Burn includes more than tree planting. Elk, deer, and other animals are observed. Plots bordering brooks provide excellent chances for youngsters to watch salmon making their way upstream during spawning season. Many ponds team with small life which children gather to take back to class for further study. Turning over rotted logs reveal all sorts of scampering insects. This outdoor fun stimulates further study in the sciences. Many teachers capitalize on the motivation which began when a child grabbed a fleeing insect from an overturned log.

Educators, of course, recognize that rich learning experiences take place on these trips. In addition, a great feeling of accomplishment comes from contributing to the rebirth of their forests.

Associations

(*From page* 33)

the black sumac. We call them the black "shoemakes." They will grow in soil almost too poor for the persimmons. You will find these trees have their friends, like a segment of people have their friends in our human society on this earth. The black sumac will always have around it the lowly mullein, which is worthless but has a beautiful blossom. Also in close connection with the black sumac is the wild dewberry, which bears a delicious berry similar, but larger and sweeter, to the wild blackberry.

One of Nature's oddities to be reckoned with and mentioned here is the only other species of sumac. It is what we call the red sumac or red "shoemake." Although a first cousin, it will not have anything to do with the black sumac. Very seldom will you find it growing near its cousin. These two cousins require different soils. The red sumac likes a rich soil out where there is sun. It grows in the shade but prefers the sun. It often grows near the locusts, blackberry and wild grapevines. It is beautiful in autumn and winter for it has pods of berries red as rooster combs. One sees these plainly after frost when the leaves have fallen. They are beautiful in winter, roostercomb red on barren branches above the snow. And birds will eat these berries when they cannot find anything else. They are the K-rations for birds in frozen winter's emergency when seeds are really scarce.

Now the black sumac has a dark rough bark, as compared to the red sumac's smooth reddish bark. The black sumac has a harder wood with less pith in its stems. It has a beautiful leaf, never as red in autumn as the red sumac's, nor as pretty in the summer moonlight as the red sumac's palm-shaped leaf. And its pods of berries in winter are very dark. They look like they have been frostbitten and turned black. Their berries are the second choice of birds in event of emergency. They can be called No. 2 K-rations.

Like cities and people, the growing things in our woods are divided into different neighborhoods and have their own close associations. All other vegetation falls into little segments and associations. And, like people, the basic separations are caused by the tastes and requirements of different species of growing things for different soils. And because of tastes, like people in churches and political parties, they have grouped themselves together, which makes the growing things on the earth even more interesting. Associations are all about us. All we have to do is observe them.

By JAMES B. CRAIG

CONSERVATION AND SUSTAINED YIELD FOREST MANAGEMENT are on trial before the bar of public opinion as the Senate and House face the prospect of coming to grips, or not coming to grips, with the problem of what to do about Public Law 587– the act of three years ago which provides for the liberation of the Klamath Indians in Oregon and which could, at the same time, spell the ruination of their resource assets. The present law goes into effect this August unless Congress moves to correct its own handiwork.

AT HEARINGS LAST MONTH before the Senate Subcommittee on Indian Affairs, Senator Richard L. Neuberger, of Oregon, a long-time conservationist and frequent contributor to American Forests, took little pains to conceal his belief that events leading up to the enactment of P.L. 587 represented an ill-disguised effort to sell out valuable Indian resources, which effort was "sweetened" up so far as the Indians themselves were concerned in the form of a sop — a payment of $250 to each Indian — that was written into the act. That Indian representatives were deluged by requests from Indians for payment of the $250 now a matter of record. So is the fact that the people of Oregon including the Indians themselves had little real knowledge of what was going on or what it was all about.

THEN THE PUBLIC, which is often very slow but also very sure, caught up with the law and what it could actually mean both in terms of the Indians and their resources. The questions have been flying ever since. Hanging in the balance is one of the finest stands of ponderosa pine in the world, a marsh of great value in the Pacific Coast flyway, water values of unknown worth, and other valuable resources. (See articles on pages 24 and 25.)

WHAT IS THE SITUATION TODAY? The Senate, prior to August, may adopt one of two proposals that present alternatives to liquidation, or a combination of both. The first is Senator Neuberger's bill (S 2047) that would convert the timber to the national forests and the marsh to the national wildlife refuge system. Oregonians, from the Governor on down the line including both Republicans and Democrats, favor this solution. Failing to get it, they have not, however, slammed the door on a second proposal by Interior Secretary Seaton.

AS PLEDGED TO AFA AT MADISON, WISCONSIN, Secretary Seaton has advanced his own solution which he believes follows sound conservation principles. Under his plan, the marsh would go to the Fish and Wildlife Service. However, before placing the timber under the jurisdiction of the Forest Service, he would first give industry an opportunity to bid on it providing it meets what he calls its "appraised realization value" and providing purchasers agree to manage it under sustained yield, by covenant agreement, over a long-term period. The Secretary describes the "appraised realization value" as the "fair market value if as much as 70 percent of the forest was offered for sale in the near future without limitations on use." The Interior survey now under study sets the valuation of the timber at $121,643,918. This means that if 70 percent of the Indians elect to withdraw from the tribe, timber with an appraised value of $85,000,000 must be sold to pay each Indian a share estimated at approximately $55,000. According to Interior witnesses, the survey figure is not likely to vary half a million dollars "one way or the other" once the current study is completed and it goes to the Secretary.

(Continued on next page)

WHILE THE SENATE MAY GO ALONG WITH ONE OF THESE PLANS OR A COMBINATION of both, the picture in the House is entirely different. Unless key committee leaders in the House are persuaded to drastically revise their present views, there is little likelihood the Lower House will go along with any form of public purchase whatsoever.

CONSEQUENTLY, A QUESTION being asked today is, "Would industry meet the necessarily high terms imposed by Secretary Seaton due to what he regards as his obligation to both the industry and conservation?" In the judgment of Earl Wilcox, forester for the Management Specialists for the tribe, the chances that industry will meet the terms of the appraisal are remote. As a matter of fact, Wilcox told the committee he himself considers the appraisal figure too high.

ON THE OTHER HAND, John Shanklin, representing Interior, said, "We don't know, of course, if industry would bid or not. But here's a chance for industry to show the public what it has been telling it for some time, that it can manage timber on a sustained yield basis. It may avail itself of the opportunity."

THIS NOTE OF CHALLENGE to the industry was even more explicit in the comments of Senator Morse, of Oregon. Mr. Morse, of course, is decidedly in favor of outright public purchase of the resources on the basis that such purchase represents a form of "stockpiling for the future." At the same time, he did not completely toss out any other workable possibility that might meet his conservation terms. In a comment that industry may or may not choose to regard as a challenge, Mr. Morse said, ". . . we have witnessed in the past few years a new alertness by the timber industry to the precepts and benefits of conservation. This awakening has been slow and it has been small. We have over 360 million acres of commercial timberland in this nation, and they are in private hands, but only one-ninth of this is in the Tree Farm movement. I hope that each member of this committee will recognize that a Tree Farm sign does not insure sustained yield. It only assures cutting practices that may result in ultimate productivity of the forest again. A Tree Farm company can be liquidating its timber and still be a Tree Farmer. . . ."

WHAT SENATOR MORSE MEANS HERE, and he stressed it again in another section of his testimony, is that he would not favor successful industry bidding on Klamath forests in meeting the Secretary's high terms, if it merely meant the industry would liquidate other timber in some "less obvious spot" to meet goals imposed by stockholders or other officers.

SINCE THIS MIGHT LEAD THE READER TO BELIEVE THAT INDUSTRY is making desperate efforts to obtain the Klamath timber, we hasten to add that testimony at the hearings does not bear out any such assumption. In fact, industry has been seemingly reluctant to get "into the act" and Senator Neuberger was largely unsuccessful in his effort to get the large industry associations on record. One exception is Weyerhaeuser Timber Company which said industry might bid on the property providing it could do so on a realistic sustained yield cost basis with the government making up the difference in meeting any responsibilities to the Indians. Another firm is reportedly interested in purchasing the entire property but the committee was unsuccessful in pinning down what firm it might be or exactly what it might be prepared to do.

HOWEVER, IF INDUSTRY PRESENTS AN ENIGMA, the Indians themselves present an even bigger one. One concludes from hearing them testify that regardless what Congress does or does not do, the Klamath termination problem is destined to wind up in the courts. One Indian witness set the value of the property at 209 million dollars in considering such additional resources as water, pumice, titanium and others. Asked if would subscribe to government purchase, another said, yes, providing he did not have to forfeit his right to "sue the government." That attorneys could eventually emerge as the real victors in termination begins to assume real significance.

THESE FACTORS WOULD NOT APPEAR TO LEND HOPE that the Klamath matter is likely to be resolved quickly or easily as the matter slides towards the August deadline. Like the United Nations, however, and even as Congressional leaders become more testy about the problem, the committee work continues to go on with leaders in both parties looking for a solution that will meet both the needs of the Indians and conservation in America. As long as sincere leaders continue active the prospect is not entirely bleak.

White House Trees

(*From page* 29)

The most ancient, a venerable 130-year-old American Elm, was planted by John Quincy Adams. Another historic elm was known for years as the "Bulletin Elm." Upon its great trunk, so that story goes, were posted medical bulletins reporting President Garfield's long struggle for life after a madman's bullet had struck him down.

This was not the only tree on the White House lawn to be associated with unhappy episodes in our country's history. Two magnificent magnolias (Magnolia Grandiflora) were transported to Washington by President Andrew Jackson from his Tennessee home, the Hermitage. He had them planted on the southwest side of the White House, as "something green" in memory of his wife, Rachel. These trees still stand, a touching tribute to the courageous woman who was First Lady of the land for just one month, and who died without setting foot in the White House.

A unique history is attached to a Russo-American Oak planted near the west terrace of the White House in 1904. It is said to be a lineal descendant of a native American Oak which grew above and overshadowed the old tomb of Washington at Mount Vernon.

Acorns from this oak were sent to the Czar of Russia by the Honorable Charles Sumner, while he was a U. S. Senator. The following statement, furnished by Secretary E. A. Hitchcock, tells what happened next:

"While Ambassador at the court of St. Petersburg, I made inquiry with respect to the disposition of some acorns that the Honorable Charles Sumner . . . is said to have sent to his Imperial Majesty, the Czar. . . . These acorns were planted on what is known as Czarina Island . . . in the superb surroundings of one of the palaces of his Imperial Majesty near Peterhof, and there I found a beautiful oak with a tablet at its foot bearing a Russian inscription, the translation of which is as follows:

THE ACORN PLANTED HERE WAS TAKEN FROM AN OAK WHICH SHADES THE TOMB OF THE CELEBRATED AND NEVER-TO-BE-FORGOTTEN WASHINGTON, IS PRESENTED TO HIS IMPERIAL MAJESTY THE EMPEROR OF ALL THE RUS-

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YOU WILL BE THRILLED . . .

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A memorable experience awaits you on one of these expeditions:

FLATHEAD-SUN RIVER WILDERNESS, MONTANA
July 1 to July 12; July 12 to July 23
$220 from Missoula, Montana
Parties limited to 25

QUETICO-SUPERIOR WILDERNESS, MINNESOTA—(Canoe Trip)
July 14 to July 23
$210 from Ely, Minnesota
Party limited to 17

WIND RIVER MOUNTAINS, BRIDGER WILDERNESS, WYOMING
July 15 to July 26; August 5 to August 16
$250 from Pinedale, Wyoming
Parties limited to 20

HIGH UINTAS WILDERNESS, UTAH
July 22 to August 1
$230 from Vernal, Utah
Party limited to 20

SAWTOOTH WILDERNESS, IDAHO
July 29 to August 8; August 12 to August 22
$225 from Sun Valley, Idaho
Parties limited to 25

EAGLE CAP WILDERNESS, OREGON
August 4 to August 15
$230 from La Grande, Oregon
Party limited to 25

MAROON BELLS-SNOWMASS WILDERNESS, COLORADO
Aug. 5 to Aug. 15; Aug. 16 to Aug. 26
$230 from Glenwood Springs, Colorado
Parties limited to 20

SAN JUAN WILDERNESS, COLORADO
Aug. 12 to Aug. 22; Aug. 25 to Sept. 4
$230 from Durango, Colorado
Parties limited to 25

TETON WILDERNESS, WYOMING
August 12 to August 23
$250 from Moran, Wyoming
Party limited to 25

PECOS WILDERNESS, NEW MEXICO
September 8 to September 19
$225 from Santa Fe, New Mexico
Party limited to 25

HORSEBACK TRIP IN THE GREAT SMOKIES

Enjoy 10 wonderful days, May 21 to May 31, riding with The American Forestry Association in the Great Smoky Mountains National Park, North Carolina. The Cataloochee Ranch on Fie Top Mountain will be headquarters for seven daily rides to Sheepback Lookoff, Purchase Mountain, Paul's Gap, Balsam Mountain and other interesting points. In addition there will be a three-day pack trip from a base camp in the park, including a ride to the crest of Mt. Sterling.

Accommodations are limited to 20 riders. Make your reservations early and enjoy the superlative scenery, rushing waters, smoke-blue peaks and colorful blooms of laurel, rhododendron, azaleas and dogwood. $200 from Asheville, North Carolina.

Write or wire for detailed information, itineraries, and reservations

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SIAS, AS A SIGN OF THE GREATEST RESPECT — By an American.

"I was fortunate at the time of my visit, which was in the fall of 1898, in finding a number of acorns on the ground that had been dropped from this historic tree. Gathering a handful, I sent them home, and secured from the seed thus planted a few oak saplings, one of which is here and now planted, with the kind permission of President Roosevelt, in the grounds of the White House, while another is to be planted in a few days near its grandparent, which is still in existence at Mount Vernon, both of which young trees, I hope, will reach such age and strength as will, for years to come, typify the continued friendship of the governments and people, respectively, of the United States and Russia, for each other."

There is an odd footnote to this tale. Notwithstanding the attractive story connected with it, the oak just referred to is now identified by experts as an oriental oak known as a Daimyo Oak (Quarous dentata). The gentleman, in picking up the acorns, must have acquired without knowing it some acorns from a foreign tree nearby. Unhappy symbol, perhaps, of the failure of his wish for "continued friendship of the governments and people, respectively, of the United States and Russia, for each other?"

Although George Washington, of course, never lived in the White House, more than one tree has been planted near it in his honor. President Hoover planted an American Elm, to celebrate the 200th anniversary of Washington's birthday . . . and thereby inspired the planting of thousands of trees throughout the United States in honor of the Bicentennial.

Mrs. Hoover helped the President plant a young cedar sent from Washington's boyhood home on Ferry Farm, just outside of Fredericksburg. Mrs. Hoover also placed an 8-foot California redwood in the rear grounds, southeast of the fountain. Its claim to fame? It was an offshoot of a 75-year-old tree in Norfolk, Virginia, which had been brought by ship around Cape Horn.

After the Hoovers moved away, the nation's most famous back yard was taken over by the lively Roosevelt clan. The President, an ardent conservationist, took an interest in every tree on the grounds. He abhorred unnecessary tree-cutting to such an extent that he once left a tree with a 3-foot trunk standing in one of the White House driveways, and had the workmen pave around it. Old-fashioned rope swings were hung from historic branches for the Roosevelt grandchildren, and with small children in the house the "President's Christmas Tree" took on new meaning.

For years the "President's Tree" was a spruce on the White House lawn. There were actually two spruces. Each year a different one was decorated. (They were really oriental spruces, but because of wartime emotions, the National Park Service merely called them spruces.)

This charming tradition of the White House lawn is no longer followed. Small tub trees on the White House verandah are decorated, while the President's Tree is displayed on the Ellipse. A cut tree is brought in each year for this event.

Today, 91 varieties of trees, many from distant lands, display their beauty and strangeness on the White House grounds.

Yet, oddly enough, not one tree remains of what was a virgin forest when the site for the White House was selected. The original owners had retained the right to cut timber —to the great anguish of Thomas Jefferson, one of America's earliest conservationists.

As he watched the cutting he wished, he said, that he were a despot "that I might save those noble trees."

There are 37 maples—more than any other variety. The American Elm runs a close second, with 35 specimens. There are 8 English Elms, 35 Oaks, 27 Horse Chestnuts, 15 White Ash, 10 Sycamores, 6 Cypress, 15 Lindens, 14 Poplars, 20 Magnolias, 6 American Pines, 30 Rose Trees—as well as 2 Irish Yew, 3 English Yew, 4 Fern-Leaf Beeches — and even a specimen of the Gold Rain Tree, made famous by the best-seller novel, "Raintree County."

Twenty commemorative trees include a White Birch, the tree chosen nationally to honor motherhood. Donated by The American Forestry Association in 1924, it was planted under the auspices of the District of Columbia Federation of Women's Clubs to honor the mothers of our presidents.

As part of National Park Area No. 1, the White House trees come under the protective wing of the National Park Service.

The National Park Service of the Department of the Interior receives hundreds of letters every year, offering advice on care of the Executive Mansion lawn, flowers and trees. People often ask for cuttings of trees and shrubs. (This, of course, is not allowed.)

A frequent request is for a spoonful of earth from the White House grounds. This, too, must be refused. Curious persons write so frequently to ask how many individual cherry blossoms are on the famous Japanese cherry trees that they roused the curiosity of the tree men. They went to the Tidal Basin, measured off a few cubic feet of blossoms —and counted the individual flowers in that area. Projecting that amount, they arrived at an estimated number of cherry blossoms in the entire area.

More White House trees are lost from lightning and hurricanes than from any other cause. Yet even their oldest planting, the John Quincy Adams Elm, is not protected by a lightning rod. This decision was not arrived at without serious consideration of pros and cons. The tree experts finally agreed that, since it is in a group, a rod was likely to attract lightning to other trees nearby. They took their chances without it. So far, in the case of this historic tree, they have been lucky.

Today's White House gardeners have their problems—but their lives are as smooth as a newly cut lawn compared to situations that confronted the caretakers in days gone by.

When Meriwether Lewis of the Lewis and Clark Expedition returned to the White House in 1806, he brought some grizzly bears from the west as trophies. Thomas Jefferson, always enchanted by wild animals, displayed the bears on the White House grounds. The Federalists thereupon dubbed the shrubless White House enclosure "The President's Bear Garden."

President Wilson kept sheep on the White House lawn, and the gardeners were kept busy caring for small shrubbery and low trees they nibbled on. President Taft kept a cow, and Calvin Coolidge three wild jack rabbits.

Some presidents have had little to do with the supervision of their celebrated "back yard," as Mr. Truman, typically, called it. Some, as we have seen, have taken great interest. Yet the groupings of noble and historic trees that confronted them from every window could not fail to uplift and inspire the thinking of them all.

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This man is making more money with a Homelite 6-22 chain saw. It cuts so fast that he can buck a 20-inch log in 18 seconds, fell trees up to seven feet in diameter. One of four Homelite models, the 6-22 is a good example of the plus value you get with Homelite:

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*Less bar and chain.

D8 with No. 8S Bulldozer spreads material which has been dumped for fill by D8-No. 80 Scraper unit, approaching in the background with another load.

NEW ACCESS ROAD OPENS WAY FOR FIRST LARGE SALE OF LODGEPOLE IN DEERLODGE NATIONAL FOREST

On January 15, last year, Naranche & Konda Construction Co. started building 7.4 miles of timber access road for the U. S. Forest Service in the Philipsburg Ranger District, Deerlodge National Forest, Montana. This Butte contractor had been awarded the job with a bid of $110,000. The job involved clearing timber, grading, graveling and drainage for a 14-foot-wide road to EE14 specifications. Earthmoving yardage totaled about 90,000. The job, completed in midsummer, cleared the way to reach large stands of lodgepole timber in the Green Canyon area. The first sale, held in May last year, was for 20,000,000 bd. ft.

Mainstays of production for Naranche & Konda on this job were two CAT* D8 Tractors and a No. 12 Motor Grader. The new D8 was equipped with a No. 8S Bulldozer, while its older brother was matched with a No. 80 Scraper. Materials handled were dirt and rock, with the older unit hauling and the new one doing such chores as push loading, installing a steel culvert pipe and spreading the material dumped on the fill. The units worked 8 hours a day, 6 days a week, with a minimum of down time. Operator Edward A. Nelson made this comment on the new D8's performance: "The torque converter is good for pushing. It gives steady power. It's good for 'dozing, too."

After digging out the ditch, this D8-No. 8S Bulldozer unit eases material up to the culvert. Hydraulic steering clutches provide positive control for precise maneuvering.

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